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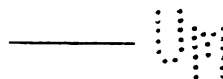
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Vol. II - 32

Addresses, Discussions, Etc.

By

ROME G. BROWN



Published Discussions Pertaining to
CONSTITUTIONAL GOVERNMENT
and Kindred and Other Subjects,
In 2 Volumes:

Volume I:

Judicial Recall; Menace of Socialism; Minimum Wage; Price Maintenance; Uniform State Laws; 3 Years Course for A. B.; The Menace of Roosevelt.

Volume II:

Water Rights and Water Powers,—Particularly State and Federal Control of Water Powers.

Collected and bound,
Minneapolis, Minnesota,
December 1, 1917

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Introduction

Regardless of the question of their worth, the writer has collected original prints of certain of his papers and addresses delivered mostly during the past ten years, for binding in a limited number of sets. The constant demand for copies of some of these productions seems to warrant this presentation, so far as the limited number of copies on hand would admit, for the use of reference libraries.

Most of these papers and addresses were produced in 1911-1917. The reports and addresses upon Judicial Recall and Socialism were a part of the work of the writer in his capacity as Chairman of the American Bar Association Committee to Oppose Judicial Recall, which position he has occupied since the year 1912. The discussions upon the subject of Minimum Wage and Price Maintenance were in connection with his professional work in the State and Federal Courts upon those questions. The discussions upon Uniform State Laws are in the form of reports made as Chairman of the Minnesota State Board of Commissioners on Uniform State Laws. The discussion of the proposition to establish a three years' course for the degree of A. B. at Harvard, was in connection with his position as Chairman of the committee on that question appointed by the Associated Harvard Clubs. Some peculiar phases of the presidential campaign of 1912, provoked the letter to the Wilson College League, concerning the menace of Roosevelt, which letter had a very wide circulation in the public press.

The discussions upon Water Rights and Water Powers were made in connection with his general study of that subject, and in connection with his law practice. These Water Rights and Water Power discussions include general discussions before scientific associations, and various presentations (beginning with the year 1911) of the question of State and Federal Control of Water Powers before Committees of State Legislatures and before Federal Commissioners and Committees of the Congress.

All these papers are combined in two volumes, Volume I comprising all the above-named discussions except those concerning Water Rights and Water Powers, the latter comprising Volume II.

For convenience there has been inserted in each volume a Synopsis of Contents, with references to the various papers by the numbers with which those papers are respectively marked. As to some of the papers there is lack of supply sufficient to include all in each set; but such omissions, if made in any volume, are indicated.

Certain cartoons and personal likenesses and biographies have been included, which fact is repugnant to the sense of delicacy of the writer, as it may be to others. However, they are part of the history of the work represented, in connection with which they were published solely on the initiative of others than the writer.

ROME G. BROWN.

Minneapolis, Minnesota,
December 1, 1917.

VOLUME II

**Water Rights and Water Powers
State and Federal Control**

THE LAW OF WATERS

Synopsis of Lectures at
Law School of University of Minnesota
and at
Law School of University of North Dakota
1912 - 1913

By Rome G. Brown
Minneapolis, Minnesota

Review Publishing Company, Minneapolis, Minnesota.

THE LAW OF WATERS

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(Note: Citation of cases is confined to leading cases on the different points covered, with particular regard to Minnesota and North Dakota cases. Only in exceptional cases is the citation of a case repeated in this synopsis, although it may bear upon other points than the one under which it is cited.)

Introductory.

Importance of the subject.

Scope of the discussion here made,—fresh water,
streams and lakes.

THE LAW OF RIPARIAN RIGHTS.

Rights in lakes and streams.

Waters as (1) public and (2) private.

Ownership in bed,—*jus publicum* and *jus privatum*.

As to rights in water itself—public rights,—
private rights.

Distinction between common law rule and rule
in U. S.

1 Blackstone's Commentaries, 263; Hale,
De Jure Maris, ch. 6; Gould on Waters,
Sec. 246; Angell Water Courses, Sec. 542;

The Genessee Chief, 12 How. 443; *The Montello Cases*, 11 Wall. 411, 20 Wall. 430; Century Dictionary, word "Navigable"; *Lamprey v. State*, 52 Minn. 181; *Barney v. Keokuk*, 94 U. S. 324; *Green Bay Canal Co. v. Kaukauna W. P. Co.*, (Wis.) 61 N. W. Rep., 1121; *Bradshaw v. Mill Co.*, 52 Minn. 59; *Att'y Gen'l v. Ry. Co.*, 12 C. E. Green (N. J.) 1, same case, 12 C. E. Green 631; *Ill. Cent. R. R. Co. v. Illinois*, 146 U. S. 453; *Union Depot Co. v. Brunswick*, 31 Minn. 297; *Hanford v. Ry. Co.*, 43 Minn. 112; *Smith v. Rochester*, 92 N. Y. 463; *Sweet v. Syracuse*, 129 N. Y. 316; *Saunders v. R. R. Co.*, 144 N. Y. 75; *Coxe v. State*, 39 N. E. Rep. (N. Y.) 400; *Kaukauna W. P. Co. v. Green Bay Canal Co.*, 142 U. S. 254; *Commrs. v. Kempshall*, 26 Wend. 404; *Rumsey v. R. R. Co.*, 133 N. Y. 79; *Garwood v. Ry. Co.*, 83 N. Y. 400; *Bridge Co. v. Paige*, 83 N. Y. 178; *Walker v. Board Public Works*, 16 Ohio, 540; *Schurmeier v. Ry. Co.*, 10 Minn. 82; *Ry. Co. v. Schurmeier*, 7 Wall. 272; *Yates v. Milwaukee*, 10 Wall. 497; *Pumpelly v. Green Bay Co.*, 13 Wall. 166; *Foster v. Bank*, 57 Vt. 128; *Eaton v. R. R. Co.*, 51 N. H. 504; *Ten Eyck v. Canal Co.*, 18 N. J. L. 200; *Canal Co. v. Jersey City*, 26 N. J. Eq. 294; *Lyon v. Fishmongers Co.*, 1 L. R. App. Cas. 662; *No. Shore Ry. Co. v. Pion*, 14 L. R. App. Cases 612; *Morrill v. St. A. F. W. Co.*, 26 Minn. 222; *Wait v. May*, 48 Minn. 453; *Myers v. St. Louis*, 8 Mo. App. 266; Cooley Const. Limitations, p. 691.

The title and rights in the bed of navigable fresh waters are fixed by the law of the respective states.

Water Co. v. Water Board, 168 U. S. 358-365; *Barney v. Keokuk*, 94 U. S. 324; *Packer v. Bird*, 137 U. S. 661; *Hardin v. Jordan*, 140 U. S. 371.

The common law rule (private ownership of bed) is followed in the states of Conn., Del., Ga., Ill., Ky., Maine, Maryland, Mass., Mich., Miss., N. H., N. J., N. Y., Ohio, So. Car., and Wis.; but public ownership in other states.

Farnham on Waters, Ch. 4, Sec. 50.

Rule in Minnesota.

Morrill v. St. A. F. W. P. Co., 26 Minn. 222; *State v. Minneapolis Mill Co.*, 26 Minn. 229; *Water Power Co. v. St. Paul Water Board*, 56 Minn. 485; *Hanford v. Ry. Co.*, 43 Minn. 112; *St. A. F. W. P. Co. v. City*, 41 Minn. 270; *In re Lake Minnetonka Improvements*, 56 Minn. 513; *Minn. Loan & Tr. Co. v. St. A. F. W. P. Co.*, 82 Minn. 505.

Rule in North Dakota.

Bigelow v. Draper, 6 N. D. 152.

Exceptions in the United States.

As to ownership of bed.

Great Ponds in Massachusetts and Maine.

Watuppa Reservoir Co. v. Fall River, 147 Mass. 548; also 134 Mass. 267; 3 Harvard Law Review, 1.

Certain rivers in Pennsylvania.

Rundle v. Canal Co., 14 How. 80; 1 Wall. Jr. 275; *Monongahela Nav. Co. v. Coons*, 6 W. & S. 101; *Shrunk v. Schuylkill Nav. Co.*, 14 S. & R. 71; *Canal Co. v. Wright*, 9 W. & S. 9; *McKean v. Canal Co.*, 49 Pa. St., 424; *Philadelphia v. Collins*, 68 Pa. St. 107; *Philadelphia v. Gilmartin*, 71 Pa. St. 140; *Fulmer v. Williams*, 122 Pa. St. 191; *Williams v. Fulmer*, 151 Pa. St. 405.

Mohawk and Hudson Rivers in New York.

Gould v. R. R. Co., 6 N. Y. 522; *People v. Canal Appraisers*, 33 N. Y. 461; *Crill v. City of Rome*, 47 How. Pr. 398; *People v. Tibbets*, 19 N. Y. 523.

But see later New York rule.

Smith v. Rochester, 92 N. Y. 463; *Rumsey v. R. R.*, 133 N. Y. 79; *Brookhaven v. Smith*, 188 N. Y. 74.

The riparian owner has no right as such to operate a ferry as against a statute requiring a franchise; and such statutory franchise may be exclusive.

Patterson v. Wollman, 5 N. Dak. 608.

U. S. statutes of 1890 (26 Stat. 454, c. 907), construed to prevent obstructions in Red River of the North, although caused indirectly by weight of filling on upland.

N. P. Ry. Co. v. U. S., 104 Fed. 691.

A waterway established by public authority for public use, connecting navigable lakes and public ground, has the same status as a natural waterway or a landway, and if opened up and constructed under a pre-existing railway right of way, the railway company must construct and maintain the necessary bridge for its tracks.

C. M. & St. P. Ry. Co. v. City of Minneapolis, 133 N. W. 169 (pending on Writ of Error to U. S. Sup. Ct.).

The common right of all persons to enjoy the use of public waters for the ordinary purposes of life,

such as boating, fishing, recreation, domestic and individual uses, includes the right to take ice therefrom; but does not include the right to take ice for commercial purposes in large quantities to the injury of riparian owners.

Sanborn v. People's Ice Co., 82 Minn. 43.

THE LAW OF APPROPRIATION.

THE LAW OF RIPARIAN RIGHTS AS AFFECTED BY THE LAW OF RIGHTS BY PRIOR APPROPRIATION IN STATES WEST OF THOSE TOUCHED BY THE MISSISSIPPI RIVER.

Origin and nature of the law of appropriation.

Act of Congress of July 26, 1866, ch. 262, Sec. 9, 14 Stat. 253,—U. S. Comp. Stat. 1901, p. 1437; Act March 3, 1877, ch. 107, 19 Stat. 377; Act March 3, 1891, ch. 561, Sec. 18, 26 Stat. 1095; also Act of June 17, 1902, Sec. 8, 32 Stat. 388; Farnham on "Waters and Water Rights," Ch. 22; Wiel on "Water Rights in the western states," ch. 1; Black's Pomeroy "Water Rights," Sec. 15; Gould on "Waters," ch. VII.

The common law rule of riparian rights rejected and the rule of rights by prior appropriation established in seven states: Arizona, Colorado, Idaho, New Mexico, Nevada, Utah and Wyoming.

Boquillas, etc., Co. v. Curtis, (Ariz.) 89 Pac. 504, 213 U. S. 339; *Land & Canal Co. v. Ditch Co.*, 18 Colo. 1; *Kansas v. Colo.*, 206 U. S. 46; *Wilterding v. Green*, 4 Idaho, 773; *Boise, etc. Co. v. Stewart*, 10 Idaho, 38; *U. S. v. Rio Grande Co.*, 9 N. Mex. 303, 174 U. S. 706; *Albuquerque, etc. Co. v. Gutierrez*, 10 N. Mex. 177, 188 U. S. 545; *Reno, etc. Co.*

v. Stevenson, 20 Nev. 269; *Bliss v. Grayson*, 24 Nev. 422; *Stowell v. Johnson*, 7 Utah, 215; *Moyer v. Preston*, 6 Wyo. 308; *Farm Inv. Co. v. Carpenter*, 9 Wyo. 110.

The law of riparian rights upheld, modified only by appropriation rights vested before lands in question passed to private ownership,—in eleven states: Alaska (?), California, Kansas, Montana, Nebraska, North Dakota, Oklahoma, Oregon, South Dakota, Texas (?) and Washington.

Ketchikan, etc. Co. v. Citizens, etc. Co., 2 Alaska, 120; but see *McFarland v. The A. P. Co.*, 3 Alaska, 308; *Lux v. Haggin*, 69 Calif. 255 (leading case); *Clark v. Allaman*, 71 Kansas 206; *Smith v. Denniff*, 24 Mont. 20; *Prentiss v. McKay*, 38 Mont. 114; *Crawford v. Hathaway*, 67 Neb. 325; *Bigelow v. Draper*, 6 N. Dak. 152; *Chicago, etc. Ry. Co. v. Groves*, 20 Okla. 101; *Carson v. Gentner*, 33 Ore. 512; *Lone Tree D. Co. v. Cyclone D. Co.*, 15 S. Dak. 519; *Stenger v. Thrap*, 17 S. Dak. 13; *McGhee, etc. Co. v. Hudson*, 85 Tex. 587; but a different rule in Texas for arid and non-arid lands, *Barrett v. Metcalf*, 12 Tex. Civ. App. 247; *Hall v. Carter*, 33 Tex. Civ. App. 230; *Benton v. Johncox*, 17 Wash. 277; *Isaacs v. Barber*, 10 Wash. 124, 30 L. R. A. 665, note.

These varying rules of property rights of the riparian owners or of appropriators are upheld by the Federal Courts by enforcing as to each state the local law of such state, under the principle of the decision in,

Water Co. v. Water Board, 168 U. S. 358. See U. S. Cases cited above, also *Sturr v. Beck*, 6 Dak. 71, 133 U. S. 541.

The rule in North Dakota.

North Dakota Constitution, Article 17, Sec. 210,—“All streams * * * property of the state for mining, irrigation and manufacturing purposes.”

Revised Codes N. Dak., Sec. 4809,—All navigable rivers are public highways. Fee title on navigable streams and lakes extends to low water mark. Opposite owners on non-navigable stream have common rights in stream and bed.

Revised Codes N. Dak., Sec. 4798,—Use of streams belongs to riparian owner.

Revised Code N. Dak., Sec. 7604-7685,—Irrigation statutes.

These Constitutional and statutory provisions could not and did not “divest the rights of riparian owners in the waters and bed of all natural water courses in the state,” under the common law of riparian rights “inforced in the Territory of Dakota at the time of the adoption of the constitution.” Private riparian rights, as defined by the common law, vest, subject to the previously acquired rights under the law of rights by prior appropriation, but are not subject to destruction or impairment by appropriations made subsequent to the vesting of the private riparian right.

Bigelow v. Draper, 6 N. Dak. 152; *Sturr v. Beck*, 6 Dak. 71, 133 U. S. 541.

The riparian right vests at the very inception of the riparian title,—that is from the date of occupancy.

Sturr v. Beck, 6 Dak. 71, 133 U. S. 541;
Benton v. Johncox, 17 Wash. 277; *Ditch Co.
 v. Ditch Co.*, 15 S. D. 519.

In states touched by the Mississippi river and all states East of that line, the law of rights by prior appropriation has been repudiated.

The western law of appropriation in lieu of riparian rights has been urged in several states, but has been refused recognition.

R. R. Mills v. Wright, 30 Minn. 249;
Huber v. Merkel, 117 Wis. 355; *Druley v.
 Adam*, 102 Ill. 202.

A developed water power, however, has certain priorities over subsequently developed water powers,—what constitutes “development”.

Miller v. Troost, 14 Minn. 365.

The law of appropriation does not apply to subterranean percolating waters. The land owner owns water standing thereon or flowing over or under its surface, not forming a definite stream.

Revised Codes, N. D., Sec. 4798; *D. C. R.
 Co. v. Barker*, 14 S. Dak. 558.

THE LAW OF REASONABLE USE.

Ancient Sources of the Law of Waters.

"I did not repel or set back the waters; I did not turn aside the flowing of a canal." * * * "I did not soil the water."

Ch. 125, Egyptian "Book of the Dead."
Ezekiel XXXIV, 18 and 19.

The right of usufruct, as established by the civil law, also common law of England and of this country.

"Sic enim debere quem meliorem agrum suum facere ne vicini deteriore faciat."

"Aqua currit et debet currere ut currere solebat."

"Sic utere tuo, ut alienum non laedas."

"De minimis non curat lex."

"Damnum absque injuria."

Just. Inst. II, 1, Sec. 1, 2; Hale, De Jure Maris, Ch. 6; 2 Blackstone's Comm. 18; 3 Kent's Comm. 439.

What is a "water course"?

Bryne v. Ry. Co., 38 Minn. 212; Rev. Codes N. Dak., Sec. 4798; Laws N. Dak. 1907, ch. 271; *D. Township v. L. Township*, (N. Dak.) 133 N. W. 52.

Rights of riparian owners to develop and maintain water power.

Rights in general on private streams.

Red River Roller Mills v. Wright, 30 Minn. 250; *Pinney v. Luce*, 44 Minn. 369.

Rights in general on public streams.

Act of Congress of Mar. 3, 1899, 6 Fed. Stat. Ann. 805; *Morrill v. St. A. F. W. P.*

Co., 26 Minn. 222, and other cases as to Mississippi River above cited; *Minn. Canal & Power Co. v. Koochiching Co.*, 97 Minn. 429; *Minn. Canal & Power Co. v. Pratt*, 101 Minn. 197; *Hoxie v. Hoxie*, 38 Mich. 77; *Dumont v. Kellogg*, 29 Mich. 423; *Elliot v. R. R. Co.*, 10 Cush. 193.

Each riparian owner is entitled to the full benefit of the natural fall opposite his land and may make local diversions for use of power if he returns the water so that it can be used without substantial detriment to the next owner below.

M'Calmont v. Whitaker, 3 Rawle, 90; *Drake v. Hamilton Woolen Co.*, 99 Mass. 574; *Canfield v. Andrew*, 54 Vt. 1; *Gould v. Boston Duck Co.*, 13 Gray 450; *Cary v. Daniels*, 8 Metc. 477; *Hayes v. Waldron*, 44 N. H. 584; *Norway Plains Co. v. Bradley*, 52 N. H. 105; *Davis v. Getchell*, 50 Me. 602; *Mayor v. Appold*, 42 Md. 456; *Platt v. Johnson*, 15 Johns. 217; *Bullard v. Mfg. Co.*, 77 N. Y. 529; *Rindge v. Sargeant*, 64 N. H. 294; *Minn. Loan & Tr. Co. v. St. A. F. W. P. Co.*, 82 Minn. 505.

The "dog in the manager" case.

Mason v. Cotton, 2 McCrary, 82.

The "Main channel" within which the water must be returned and as to which all rights are determined, is the channel as it exists at the "ordinary stage" of water.

Bridge Co. v. Dubuque Co., 55 Ia. 558; also Michigan, Vermont and Massachusetts cases above cited; also *Pinney v. Luce*, 44 Minn. 371; *In re Minnetonka*, 56 Minn. 513; see also *Dorman v. Ames*, 12 Minn. 451.

The rule as between opposite riparian owners.

Pinney v. Luce, 44 Minn. 369; *Minn. L. & T. Co. v. St. A. F. W. P. Co.*, 82 Minn. 505.

As to rights of condemnation by water power companies.

Minn. Canal Co. v. Koochiching Co., 97 Minn. 429; *Minn. Canal Co. v. Pratt*, 101 Minn. 197.

As to limits of rights to injunction in cases of diversion, back flow, etc. Application of principles, "*de minimis non curat lex*" and "*damnum absque injuria*,"—some detriment assumed. Rights are governed by the law of "reasonable use."

Minn. L. & T. Co. v. St. A. F. W. P. Co., 82 Minn. 505, and cases cited.

Right of reasonable use includes not only domestic uses, but artificial or business uses. The latter includes not only uses for power, but also reasonable use for agricultural purposes including irrigation.

Elliott v. Pittsburg Ry., 10 Cush. 193; *Pierson v. Speyer*, 178 N. Y. 270; *Southern Cal. etc. Co. v. Wilshire*, 144 Cal. 58; Wiel on "Water Rights in Western States" Sec. 298; Angell "Water Courses", Sec. 120.

In some states the right extends to the use of all water required for proper irrigation of all the riparian owner's cultivable riparian land.

Driskill v. Rebbe, 22 S. Dak. 242, and s. c. on rehearing, 133 N. W. Rep. 246; *R. L. & Co. Co. v. Read*, 26 S. Dak. 128 N. W. 702; *Ditch Co. v. Ditch Co.*, 15 S. Dak. 519.

But see decision, (of doubtful soundness in a riparian-right state), denying right of riparian to appropriate waters for irrigation,—without permission under state statutes repudiating riparian right and asserting public ownership and control of waters of running streams.

Kirk v. State Board of Irrigation, (Neb.) 134 N. W. 167.

Water cannot be set back so that at the natural and ordinary stage the upper proprietor will be damaged.

Non-navigable streams and lakes,—“natural and ordinary stage” defined.

Dorman v. Ames, 12 Minn. 451; *Ames v. Cannon River Mfg. Co.*, 27 Minn. 245.

Navigable streams and lakes,—“ordinary high water mark” defined.

In re Minnetonka, 56 Minn. 513; *State v. District Court*, 83 Minn. 464; *McGee v. Hennepin Co.*, 84 Minn. 472; *Tew v. Webster*, 103 Minn. 110; *Erdman v. Watab*, 112 Minn. 175; *Stenburg v. Blue Earth Co.*, 112 Minn. 117.

As to prescriptive rights.

As to dams.

Swan v. Munch, 65 Minn. 500; *Simmons v. Munch*, 107 Minn. 370; *Tew v. Webster*, 103 Minn. 110; *Simons v. Munch*, 115 Minn. 360.

Right to maintain dam includes right of flowage caused by dam.

Albee v. Hayden, 25 Minn. 267.

As to ponds.

Kray v. Muggli, 84 Minn. 90; cf. *City of Albert Lea v. Nielson*, 80 Minn. 101; *Simons v. Munch*, 115 Minn. 360.

As to opposite owners.

Pinney v. Luce, 44 Minn. 369.

As to ditches.

Baldwin v. Fisher, 110 Minn. 186.

Water power is a part of, and is appurtenant to, the riparian land. It is a part of the real estate and must be assessed for taxation purposes as such.

State v. Mpls. Mill. Co., 26 Minn. 229.

Such appurtenance to the riparian land may be detached by grant and attached to land to which it is not naturally appurtenant.

St. A. F. W. P. Co. v. Minneapolis, 41 Minn. 270.

Water power thus detached from the land to which it was originally appurtenant and attached to other land, as by a proper water power lease, can be used by the grantee or lessee only on the land specified.

Mpls. Mill Co. v. Hobart, 26 Minn. 37.

The law of reasonable use applied as between dam owners and log drivers on a public stream.

Sprague v. Crookston W. W. P. & L. Co., 91 Minn. 461.

CONSERVATION vs. CONFISCATION.

LIMITATIONS OF FEDERAL AND STATE CONTROL OF WATER POWERS.

[See Argument of November 28, 1911, Revised
March 1, 1912, before the National Wa-
terways Commission.]

The definition of "Natural Resources" does not define the limitations between public and private rights. Private property rights, as well as public rights, may exist *jure naturae*,—that is, for the very reason that they pertain to a "natural resource." The question, in any particular case, is, whether a natural resource, or some beneficial use thereof, is or is not appurtenant to certain land. Water power, although a natural resource, is generally a real estate appurtenance, and the right to the beneficial use thereof belongs, *jure naturae*, to the riparian owner.

Lyon v. Fishmongers Co., 1 L. R. App.
Cas. 662; *Morrill v. St. A. F. W. P. Co.*, 26
Minn. 222, 228.

Conservation.—The reservation for public benefit of rights and resources appurtenant to land, not already passed to private ownership.

Confiscation.—The appropriation for public benefit of rights and resources appurtenant to land, already passed to private ownership.

The rule as to Federal Control:—The federal government has no proprietary interest, but a sovereign power of control, limited to the power to

prevent unreasonable interference with commerce, (navigation) in navigable streams. All other sovereign rights of control belong to the states and all proprietary rights of beneficial use belong to riparian owners. The extent of the proprietary right in any state is governed by the law of such state.

Water Power Co. v. Water Board, 168 U. S. 358-365; *Union Bridge Co. v. U. S.*, 204, U. S. 399; *Hobart v. Hall*, 174 Fed. Rep. 433; *Hall v. Hobart*, 108 C. C. A. Rep. 348; *U. S. v. Chandler-Dunbar Co.*, 209 U. S. 447; *People, ex rel, etc. v. Smith* (N. Y.) 70 App. Div. 543, 175 N. Y. 469; *Kansas v. Colorado*, 206 U. S. 96; *U. S. v. Rio Grande Co.*, 174 U. S. 690, 704-5; *Broder v. Water Co.*, 101 U. S. 274; *B. L. & C. Co. v. Curtiss*, 213 U. S. 339.

The rule as to State Control:—A state has no proprietary interest but only a sovereign power of control to protect navigation, and, subject only to this limited paramount right of control, the riparian owner has vested property right to the beneficial use of the bed and waters of streams, which cannot be taken away or diminished without compensation.

Hanford v. R. Co., 43 Minn. 104; *Kretschmar v. Meehan*, 74 Minn. 211; *Simons v. Munch*, 107 Minn. 370; *Crookston Co. v. Sprague*, 91 Minn. 461; *Hobart v. Hall*, 174 Fed. Rep. 433; *People v. Mould* (N. Y.) 37 App. Div. 35; *People, ex rel, etc., v. Smith*, (N. Y.) 70 App. Div. 543; *Sweet v. City of Syracuse*, 129 N. Y. 335; *Smith v. Rochester*, 92 N. Y. 474; *State ex rel. Wausau Ry. Co. v. Bancroft*, Attorney General (Decided January 30, 1912, and declaring the Wis-

consin water power statute of 1911 an unconstitutional attempt at confiscation of riparian rights), 134 N. W. Rep. 330.

These riparian rights are not affected or diminished, because the stream in question constitutes a boundary, international or otherwise.

U. S. v. Chandler-Dunbar Co., 209 U. S. 447; *People ex rel. etc. v. Smith*, 70 App. Div. 543, affd. 175 N. Y. 469.

These property rights of a riparian to the beneficial use of a bed and stream are the same whether the title to the bed is held to be in the sovereign or in the riparian,—the difference is “more speculative than practical” and is “immaterial”.

Union Depot Co. v. Brunswick, 31 Minn. 297; *Lamprey v. State*, 52 Minn. 181; *Hanford v. Ry. Co.*, 43 Minn. 104, 109 and 118; *Hobart v. Hall*, 174 Fed. 433; *Willow River Club v. Wade*, 100 Wis. 86.

Some instances of Federal legislation :

Act of Sept. 19, 1890, Sec. 7, 20 Stat. 426; Act of July 13, 1892, 27 Stat. 88; Act of Congress, Mar. 3, 1899, 30 Stat. 1121.

Minn. Canal & Power Co. v. Koochiching Co., 97 Minn. 429; *Minn. C. & P. Co. v. Pratt*, 101 Minn. 197.

Act of June 21, 1906, 34 Stat. 386; and the Dam Act of June 23, 1910, 36 Stat. 593.

Confiscatory effect of these later dam acts.

The federal power to preserve scenic beauty,—
The “Burton Act” of June 29, 1906, 34 Stat. 626;
Treaty of 1909 between Great Britian and
United States.

Instances of State legislation.

Chapter 652 Wis. Laws 1911; also “House
File 76” in Minnesota Legislature of 1911; also
Ch. 291 Minn. Laws 1911, pretending to assert
proprietary fee simple title in state to beds of
navigable waters.

State ex rel Wausau Ry. Co. v. Bancroft,
Atty. Gen. (Wis.) 134 N. W. Rep. 330.

Illinois statute attempting to declare an un-
navigable stream as belonging to the class of
“navigable” streams.

People v. Economy L. & P. Co., 241 Ill.
290.

The North Dakota constitution, Article 17,
Sec. 210, asserting that all streams are property
of the state, etc., although confiscatory in terms,
held applicable only within constitutional limits.

Bigelow v. Draper, 6 N. Dak. 152.

Nebraska Irrigation Statutes asserting un-
limited right of control by state as against ripar-
ian right of use.

Upheld in *Kirk v. State Board of Irriga-
tion* (Neb.) 134 N. W. 167; but, contra, see
Bigelow v. Draper, 6 N. Dak. 152.

RIGHT TO DIVERT WATERS FOR PUBLIC WATER SUPPLY.

[See Address, May 28, 1895,—15th Annual Report
Proceedings American Water Works Association.]

Importance of question.

Application of the rule confining riparian owner's right to usufruct only and also of rule of reasonable use.

The private owner's right for domestic use as distinguished from use for public supply.

As to private waters.

Emporia v. Soden, 25 Kan. 588; *Water Co. v. Watson*, 29 N. J. Eq. 369; *Stein v. Burden*, 24 Ala. 130; *Wilts & Berks Canal Co. v. Swindon Water Co.*, L. R. IX Ch. App. Cases (1874) 451; *Reading v. Althouse*, 93 Pa. St. 400; *Hall v. Iona*, 38 Mich. 493; *Hough v. Doylestown*, 4 Brews, 333; Mills Eminent Domain, Sec. 79; 3 Kent. Com. 439; Gould on Waters, Sec. 205, 245; *Gilzinger v. Water Co.*, 66 Hun. 173; *Manville Co. v. Worcester*, 138 Mass. 89; *Higgins v. Flemington Water Power Co.*, 36 N. J. Eq. 538; *Rigney v. Tacoma Co.*, (Wash.) 38 Pac. R. 147; *Sounders v. Bluefield W. W. Co.*, 58 Fed. Rep. 136.

Exceptional rule in Vermont.

Barre Water Co. v. Carnes, 65 Vt. 626.

Also exceptional rule already noted in Mass., Pa., and Mohawk and Hudson Rivers in New York.

As to public waters.

Right of diversion for public supply depends upon rule of ownership in different states; except for navigation purposes denied in most states.

Sweet v. Syracuse, 129 N. Y. 316; *New York Rubber Co. v. Rothery*, 132 N. Y. 293; *Smith v. Rochester*, 92 N. Y. 484; *Myers v. St. Louis*, 8 Mo. App. 266; *Walker v. Board Public Works*, 16 Ohio, 540; *Saunders v. R. R. Co.*, 144 N. Y. 75.

Rule in Minnesota.

Water Power Co. v. St. Paul Water Board, 56 Minn. 485, 168 U. S. 349.

The proprietor of a public water supply, municipal or private, is liable for death or disease from negligently allowing infected water to be supplied through water mains. Also for other acts of negligence in operating water supply system, as for damages cause by broken mains.

Keever v. City of Mankato, 113 Minn. 55; *Journal Printing Company v. City of Madison*, (Wis.) 134 N. W. 909.

POLLUTION OF WATERS.

[See 19th Report (1901-2) Minnesota State Board of Health, pp. 236-266.]

General principles as to remedies for pollution are governed by law of reasonable use.

Washburn, Easements, Sec. 11, p. 317; Angell Water Courses, Secs. 136, 137, 140 and 450; High on Injunctions, Secs. 805,

810; Gould on Waters, Sec. 219; *O'Brien v. St. Paul*, 18 Minn. 176; *Red River Roller Mills v. Wright*, 30 Minn. 253.

Pollution by manufacturing and mining plants.

Sanderson v. Coal Co., 86 Pa. St. 406; 94 Pa. St. 303; 102 Pa. St. 370; 113 Pa. St. 126; *Elder v. Coal Co.*, 157 Pa. St. 490; *Hindson v. Markle*, 171 Pa. St. 138; *Fricke v. Quinn*, 188 Pa. St. 474; *Collins v. Gas Co.*, 131 Pa. St. 143.

The early decision of the Pennsylvania court in the Sanderson cases, holding that pollution by mining operations was not actionable, has been expressly repudiated by other states as it afterwards was by the Pennsylvania courts.

Beach v. Sterling Iron Co., (N. J. 1895) 33 Atl. 286; 54 N. J. Eq. 65; *Holsman v. Bleaching Co.*, 14 N. J. Eq. 335; *Higgins v. Water Co.*, 36 N. J. Eq. 538; *Sterling Iron Co. v. Mnfg. Co.*, (1897) 38 Atl. 426; *Price v. Lawson*, 74 Md. 499; *Mississippi Mill Co. v. Smith* (Miss.), 11 So. 26; *Tenn. Coal Co. v. Hamilton*, 14 So. 167; *Drake v. Iron Co.*, 14 So. 749; *Satterfield v. Rowan*, 83 Ga. 187; *Threatt v. Mining Co.*, (S. C. 1897), 26 S. E. 970; *Mining Co. v. Mining Co.*, (Cal.) 48 Pac. 828; *Hayes v. Waldron*, 44 N. H. 584; *Snow v. Parsons*, 28 Vt. 459; *Canfield v. Andrews*, 54 Vt. 1; *Prentice v. Geigar*, 74 N. Y. 341; *Townsend v. Bell*, 17 N. Y. S. 210; *Townsend v. Bell*, 24 N. Y. S. 193; *Covert v. Cranford*, 141 N. Y. 521; *Smith v. Cranford*, 32 N. Y. S. 375; *Middlestad v. Starch Co.*, (Wis.) 66 N. W. 713; *Munice Pulp Co. v. Martin* (Ind.), 55 N. E. 796; *Roller Mills v. Wright*, 30 Minn. 254.

As to discharge of sewage by cities and individuals.

Atty Gen'l v. Paterson, 42 Atl. (N. J., 1899) 752; 45 Atl. 995; *Mining Co. v. City of Joplin* (Mo. 1894), 27 S. W. 406; *Locks & Canals v. City of Lowell*, 7 Gray 223; *Haskell v. City of New Bedford*, 108 Mass. 208; *Vale Mills v. Nashua*, 63 N. H. 136; *Chapman v. City of Rochester*, 110 N. Y. 273; *People v. City of San Luis Obispo*, 116 Cal. 617; *Peterson v. City of Santa Rosa*, 51 Pac. (Cal.) 557; *Good v. Altoona City*, 162 Pa. St. 493; *Middlesex Co. v. Lowell*, 149 Mass. 509; *Brainerd v. Newton*, 154 Mass. 255; *Merrifield v. Worceter*, 110 Mass. 216; *Nolan v. New Britain*, 69 Conn. 668; *Morgan v. City of Danbury*, 67 Conn. 484; *Robb v. Village of La Grange* (1895), 158 Ill. 21; *Barrett v. Cemetery Ass'n.*, 159 Ill. 385; *Stoddard v. Village of Saratoga Springs*, 4 N. Y. S. 745; *Butler v. Village of Edgewater*, 6 N. Y. S. 174; *Attorney General v. Council of Birmingham*, 4 Kay & J., 528; *Chicago Drainage Cases*, 180 U. S. 208, 35 Am. Law Review, 453.

Other sources of pollution.

People v. Elk River Lbr. Co., (Cal.) 40 Pac. 486; *People v. Elk River Lumber Co.*, 40 Pac. 531; *Ball v. Nye*, 99 Mass. 582; *Carhart v. Gas. Co.*, 22 Barb. 297; *Kinnaird v. Oil Co.*, (Ky.) 12 S. W. 937; *Mason v. Hill*, 3 B. & Ad., 304; *Water Co. v. Potter*, 7 H. & N., 160.

The effect of repudiation in far western states of common law rule as to riparian owners overcome, as to pollution, by statutes.

Stowell v. Johnson, 7 Utah, 215; *People v. McCune* (Utah), 46 Pac. 658.

Power to obtain right to pollute by prescription affirmed but right may be stopped by condemnation.

Martin v. Gleason, 139 Mass. 183.

Power to obtain prescriptive right to pollute denied, and a municipality cannot pollute to the injury of individual riparian owners on stream below.

Platt Bros. & Co. v. City of Waterbury, 72 Conn. 531; reported with notes on "Right of Municipal Corporation to Drain Sewage into Waters," 48 Lawyers' Reports Annotated, p. 691; *Sammons v. City of Gloversville* (N. Y.), 67 N. E. Rep. 622; *Birmingham v. Land* (Ala.), 34 So. Rep. 613; *West Arlington Improvement Co. v. Mt. Hope Retreat* (Md.), 54 Atl. Rep. 982; *Watson v. Town of New Milford*, 72 Conn. 561; *Butler v. Village of White Plains* (N. Y.), 69 N. Y. Supl. 193; *City of Jacksonville v. Doan*, 145 Ill. 23; *City of Mansfield v. Hunt*, 19 Ohio Cir. Ct. Rep. 488.

The right of city to pollute is not strengthened by its having built expensive sewerage system.

Weston Paper Co. v. Pope (Ind.), 57 N. E. Rep. 719.

Remedies against pollution.

Criminal prosecution under statutes.

Injunction and suits for damages.

Remedies as between different states and different countries.

State v. Chapin, 17 Ark. 561; *Howell v. Johnson*, 89 Fed. 556; *R. R. Co. v. Ward*, 2 Black. (U. S.) 485; *Stillman v. Mnfg. Co.*, 3 W. & M. (U. S. C. C.) (R. I.)

546; *Foot v. Edwards*, 3 Blatch. C. C. Rep. 310; *Thayer v. Brooks*, 17 Ohio 489; *In re Eldred*, 46 Wis. 530; *Worcester v. Mnfg. Co.*, 39 Me. 246; *Herrick v. M. & St. L. Ry. Co.*, 31 Minn. 11; Rorer Interstate Law, 241-3; *Adams v. People*, 1 N. Y. 173; *State v. Ellis*, 3 Conn. 185; *State v. Wyckoff*, 31 N. J. L. 65; *State v. Moore*, 26 N. H. 448; *State v. Grady*, 34 Conn. 118; *Johns v. State*, 19 Ind. 421; Pomeroy International Law, page 145; 1 Phillimore International Law, page 167; *Armendiaz v. Stillman*, 54 Tex. 623, 1 Whartons International Law Digest, Sec. 20; see Correspondence Mexican foreign relations, cited 1 Wharton's International Law Digest, Secs. 21 and 30.

SUBTERRANEAN WATERS.

Distinction between absolute and correlative rights.

Distinction between waters whose underground location or channel is ascertainable and percolating waters.

Artesian Wells.

Common law rule as modified in this country.

Stillwater Co. v. Farmer, 89 Minn. 58; same case, 92 Minn. 230.

Cases holding that there are no correlative rights.

Wheelock v. Jacobs, 70 Vt. 162, 67 Am. St. Rep. 659; *Huber v. Merkel*, (Wis.) 94 N. W. 354.

Gas and oil cases distinguished.

Huber v. Merkel, (Wis.), 94 N. W. 359; *Gagnon v. French Lick Springs Hotel Co.*,

(Ind. 1904) 68 L. R. A. 179; *Barclay v. Abraham*, 121 Ia. 619; *Ry. Co. v. East*, (Texas, 1904) 66 L. R. A. 738.

In Minnesota the common law rule is abrogated and correlative rights in subterranean percolating waters are recognized even to the application of the general rule of "reasonable use."

Erickson v. Crookston W. W. P. & L. Co., 100 Minn. 481; same case, 105 Minn. 182.

Subterranean percolating waters cannot be appropriated and belong to the owner of the land.

Revised Codes of N. D., Sec. 4798; *D. C. R. Co. v. Barker*, 14 S. Dak. 558; *Metcalf v. Nelson*, 8 S. Dak. 87.

SURFACE WATERS.

What are surface waters?

Krupke v. Stockard, 103 Minn. 349; *D. Township v. L. Township*, (N. Dak.), 133 N. W. 56. See also Laws N. Dak. 1907, ch. 271.

As to ravines carrying off rain fall.

McClure v. Red Wing, 28 Minn. 186.

The original rule that surface waters were a common enemy, and the effect of that rule.

O'Brien v. St. Paul, 25 Minn. 335; *Hogenson v. Ry. Co.*, 31 Minn. 224; *Olson v. Ry. Co.*, 38 Minn. 419; *Jordan v. Ry. Co.*, 42 Minn. 172; *Rowe v. Ry. Co.*, 41 Minn. 384.

Modification of that rule in recent decisions in Minnesota and other state—application of the rule "*sic utere—etc.*"

Regard must be had for natural drainage ways and reasonable care must be taken not to injure other lands—again the application of the rule of reasonable use.

Sheehan v. Flynn, 59 Minn. 436; *Werner v. Popp*, 94 Minn. 118.

Conditions arising from extraordinary and unusual rain storms not the criterion.

Philips v. Taylor, 93 Minn. 28.

Some damage to neighbor allowable,—reasonable necessities under all the circumstances must be considered.

Oftelie v. Town of Hammond, 78 Minn. 275; *Gilfillan v. Schmidt*, 64 Minn. 29; *Krupke v. Stockard*, 103 Minn. 349; *Erhard v. Wagner*, 104 Minn. 258; *Praught v. Bukosky* (Minn.) 133 N. W. 564; *Rieck v. Schamanski* (Minn.) 134 N. W. 228.

One riparian owner cannot drain lake to injury of another riparian owner on same lake.

Schaefer v. Marthaler, 34 Minn. 487; *Gatz v. Dressner*, 106 Minn. 117.

Discharge of rain water from roof.

Beach v. Gaylord, 45 Minn. 476; *Philips v. Taylor*, 93 Minn. 28; *Ginter v. Rector*, 95 Minn. 14.

The rule in case of county ditches.

State v. Isanti County, 98 Minn. 89.

Liability of railroads in disturbing surface waters same as that of individuals. Condemnation damages do not include damages resulting from

negligent construction. All reasonable means to avoid unnecessary injury to the land of others must be used.

Howard v. I. C. R. Co., 114 Minn. 189;
Hannaher v. St. P. etc. Ry. Co., 5 Dak. 1;
Carroll v. Rye Township, 13 N. D. 458.

Waters of a stream emptying into a swale and thence spreading over considerable surface and losing identity as a stream and commingling with surface waters, become surface waters; and thereafter the law as to their disposition changes from that of riparian rights to that of drainage of surface waters.

Davenport Township v. Leonard Township, (N. D. Oct. 1911) 133 N. W. 56.

BOUNDARY POINTS AND LINES ON STREAMS AND LAKES.

[See Sixth Bulletin (1908) Minnesota Surveyors' and Engineers' Society, pp. 1-33.]

The function of the surveyor—in ancient times and at present.

Boundaries on and in Streams.

Boundary lines of riparian ownership or of rights of use in the bed of a stream are (1) the "thread of the stream," and (2) lateral lines, above and below, extending from the shore track to the thread.

"Thread of the Stream" defined:—It is a straight line opposite the riparian tract in question lying along the general course of the stream, as the same

exists at the ordinary stage of water at that point, and situated half way between the general course of the banks opposite the tract in question, disregarding exceptional irregularities in the shore. It is the center of the stream, not the center of the current.

See Pinney v. Luce, and other cases next below.

How to determine the lateral lines.

Various peculiar statutes of Minnesota based upon erroneous theories.

Sec. 91 Rev. Laws 1905, and Ch. 242 Laws of 1905—fixing jurisdiction of counties.

Sec. 3, Ch. 257, Laws of 1897—attempting to fix boundaries by statute.

The general rule for establishing boundary lines of riparian rights in the bed of a stream:—Having found the thread of the stream according to the rule heretofore stated, the lateral lines which mark the limits of the riparian owner's interest in the bed of the stream are found, by taking the two points of intersection by the side lines of the upland tract with the shore line of the stream, as such shore line exists at the ordinary or medium stage of water, and from those points drawing lines at right angles to the thread of the stream. In case of navigable streams, shore line of stream, for the purpose of this rule, is as such shore line exists at ordinary high water mark.

Pinney v. Luce, 44 Minn. 371; *Minn. L. & T. Co. v. St. A. F. W. P. Co.*, 82 Minn. 505; *Pratt v. Lamson*, 2 Allen (Mass.) 285;

Bridge Co. v. Dubuque Co., 55 Ia. 558; *Tappan v. Water Co.*, 157 Mass. 30; *Knight v. Wilder*, 2 Cush. (Mass.) 209; *Clark v. Campau*, 19 Mich. 329; *Gas Light Co. v. Industrial Works*, 28 Mich. 182.

Boundaries on and in Lakes.

The present established rule assumes a lake, regular in form, which, disregarding exceptional irregularities in the shore, can be resolved substantially into a circle; and the general rule for determining boundaries of riparian rights in lakes is to draw straight lines to the center of such circle from the two ends of the shore line of the riparian tract, as such shore line exists at the ordinary stage of water.

Distinction between shore line as indicated by the "ordinary stage" of water, in the case of private lakes, and as indicated by "ordinary high water mark," in the case of public lakes.

In re Minnetonka, 56 Minn. 513.

The function of meander lines. The shore line boundary is, generally speaking, the body of the water in the lake, at the respective stages in question, and is not the meander line.

2 Farnham on Waters, Sec. 418; *Ry. Co. v. Schurmeier*, 7 Wallace, 272.

The real boundary line of an irregular tract of shore land is the shore and not the meander line.

Heald v. Yumisko, 7 N. Dak. 422.

The riparian owner's right to accretion by reason of recession. Distinction between cases of na-

tural or gradual recession and cases of artificial or sudden recession.

The rule for determining the boundary lines of the riparian owner's rights to accretion:—Draw lateral lines from the center of the lake, (1) to the two ends of the original shore line of the riparian tract, in the case of unmeandered lakes, and, (2) to the intersection by the two upland side lines with the meander line, in the case of meandered lakes.

Shell v. Matteson, 81 Minn. 38; *Markuson v. Mortenson*, 105 Minn. 10. On this and other points as to rule of boundaries in lakes, see *Hanson v. Rice*, 88 Minn. 273; *Kleven v. Gunderson*, 95 Minn. 246; *Sherwin v. Bitzen*, 97 Minn. 252.

As to irregular lakes.

Lakes may be divided into three classes: (1) those whose contour approach that of a stream; (2) those whose contour is substantially a circle; and (3) those whose contour is such that it lies somewhere between the two classes already mentioned.

The nature of an ellipse,—solution of third class on basis of an ellipse.

**SOME PRACTICAL SUGGESTIONS FOR THE
LAWYER WITH REFERENCE TO WATER
RIGHTS CASES.**

As to drawing conveyances or contracts which involve the grant of riparian land or water rights: Make the instrument express clearly what is the actual intention of the parties—not merely so that it may be possible to understand it, but so that it is impossible to misunderstand it.

Value of training in mathematics.

Frequency of water rights cases.

Investigations necessary:

Questions of law involved from general propositions presented.

What are the essential issues of fact?

Importance of promptness in preparation,—how to obtain promptly evidence of facts.

The setting of gauges.

Importance of promptness and continuity in readings.

The value of maps and drawings showing graphically readings taken.

Value of topographical maps.

As to the selection of witnesses expert and non-expert.

How to get those facts in evidence and make the record clearly show the evidence.

Disputes as to grants or leases of water power:

The unit of water power,—“mill power” defined.

Definition of horse power (1) hydraulic, (2) actual.

How to determine "horse powers" of water power.

Drawing and construing contracts and leases:

What should be the subject of the lease—"right to draw."

Dangers of guarantees as to (1) head and (2) quantity.

Cargill v. Thompson, 50 Minn. 211; *Longness v. Pettigrew*, 5 Dak. 45.

Priority of leases.

Provisions as to maintenance of structures.

Facilities for measurements should be provided for.

Methods of measurement.

Expert methods.

Non-expert methods.

How unit of power either leased or granted should be expressed.

Effect of indefiniteness as to quantity.

Power Co. v. Fergus Falls Water Co., 55 Minn. 172.

Grants or leases of water power should be limited in their use to specified parcels of land to prevent the grant of "floating" powers. Such limitations, if properly made, are enforced.

Mpls. Mill Co. v. Hobart, 26 Minn. 37.

Points On Lakes

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POINTS AND LINES ON LAKES AND STREAMS.

by

Rome G. Brown.

(Paper read before Minnesota Surveyors' and Engineers' Society at their Annual Meeting held February 25-26, 1908, at Minneapolis, Minnesota).

While at different times for a period now of about twenty years I have had occasion to discuss the different phases of the law of waters with engineers and surveyors, the conditions have generally been quite different from those in which I am now placed. Those discussions have been under the eye of a court with a hostile set of attorneys upon the other side of the table interrupting at the most critical moments, and possibly also in the presence of a jury, who, wondering what it is all about, sit perplexed and, sometimes seemingly and sometimes in fact, disgusted at the endless going over of matters involving points and lines and boundaries and dams and head-races and tail-races and of flow and backflow and of mill powers and horse powers, hydraulic and active, questions of head and of water wheels, old and new, and of efficiencies, and also questions of spillways, weirs, draught tubes, increase and diminution in quantity and a thousand other things which might touch the questions involved and a great many that did not touch them at all. The principal actor upon the scene was the engineer or the surveyor sitting in the witness chair. If he is one called by myself, he was, of course, thoroughly qualified and always spoke understandingly and to the point.

If he was on called by the other side he might be quite the reverse. Discussions of water rights questions under such circumstances are exceedingly difficult. The utmost care and preparation made by those upon either side of the case might turn out to be utter lack of care, and the theories most relied upon might turn out to be foolish vagaries which defied even the most elementary principles of hydraulics and hydrostatics.

As I have said, conditions are quite different on an occasion like this, when I am asked to present in my own way some phases of the law of waters which might be interesting, and perhaps instructive, to you who are present by your own voluntary act and not by compulsion. More than that, you are all skilled in the science which has to do entirely with the varying facts as to which the principles of law, which I shall discuss, have to be applied.

At the outset I wish it understood that I do not pose as an authority on the jurisprudence of waters. My experience in my profession has brought me in contact now for twenty years almost constantly with various questions of law and fact connected with the rights of individuals in their ownership and use of property appurtenant to streams and lakes and as to their rights in and to the use of the beds and waters of streams and lakes. The subject of the jurisprudence of waters is one that is closely connected with engineering science. The disputes which arise in any particular case are largely, and sometimes entirely, disputes as to the facts. Those questions are solely within the province of your profession. It is to the engineers and surveyors to whom we look to prepare and bring forward, in any litigation, and to present to the court and to the jury, the actual facts and the evidence which proves those facts. However, as in any profession or business, it is desirable for the engineer and surveyor, so far as possible, to have in mind certain elementary principles in regard to the legal rights and legal significance of facts in order that he may have a more thorough and rational appreciation of the bearing which any particular fact or datum, or any particular set of figures, facts or data, may have in the controversy or matter with which they are or may be involved. This is true of your profession, and ex-

pertness and ability upon the part of an engineer or surveyor have today a much broader meaning than formerly. A member of your profession may be ever so skilled in the purely scientific theories with which he has to deal. He may be ever so skilled in practice and yet he lacks something, indeed he lacks a great deal, if he has not a fair comprehension of the principles of law which are applicable to the facts, to the data and to the phenomena with which he has to deal. We have everywhere instances of such deficiencies. If one of your profession is to be an up-to-date engineer or surveyor he must have paid some intelligent attention to the principles of law which apply to the facts with which he comes in contact.

Therefore, perhaps largely in the nature of review, possibly also to some extent as to matters which may not have been called to your attention, I have been asked by the officers of your association to present briefly some rules of law in connection with the jurisprudence of your profession and particularly as connected with some phases of the law of waters.

An Ancient Science.

It is an interesting fact that the earliest account which we have of the science of engineering and surveying is in connection with the subject-matters of the flow of waters. More than three thousand years before the time of Christ, longer prior to the Christian era than the twenty centuries which have since elapsed, it is shown by records which are extant that the engineering science, and particularly that of the surveyor, was the most common and the most important in the preservation of property rights. The annual overflow of the Nile, with all its beneficial results, also had a devastating effect. It tended to destroy the boundary marks between the lands of those ancient people. It required the constant effort of an army of surveyors and of engineers to place and maintain, and to replace when removed, and to record with unmistakable accuracy the boundary corners and the boundary lines over the vast area covered by the floods. The surveyor was at the same time the recorder, and it was upon his work and his records which depended the property rights of the land owners in the great valley of the Nile. Among the

ancient Chaldeans, too, the devastations of flood and war destroying the ancient land marks made the science and practice of surveying and engineering a most important calling. This is shown by actual records which are read today and which show that the application of the science of engineering and of the law in these matters was a most important pursuit; and one of the gravest crimes known to those peoples was the tampering with the monuments or with the records of monuments which established the property lines between individual owners.

In no department of the science of your profession has there been more development in recent years than that which applies it to the question of the points and lines, the boundaries between property rights upon lakes and streams. And this is particularly true of this country, for there is no country in the world which contains, even proportionately to its size, such a vast area of inland fresh water streams and lakes as that in which we live. The development of these natural resources of common use during the past fifty to one hundred years has been unprecedented and increases proportionately as the country grows older. Artificial canals for transportation, the deepening and improvement of streams, large and small, for navigation, the use of waters from streams and lakes for the fertilizing of those vast areas which were formerly regarded as barren lands, the demands of a denser and increasing population for water supply, the increasing cost of fuel and the consequent demand for the development of the natural water powers—all these and other requirements have given to the jurisprudence of your profession, and particularly to the law of waters a prominence and an importance which they have never had before and which from now on will greatly increase.

But it would be a waste of time to dwell further upon the importance of the subject. I shall proceed to the matters which I intend to present. It is not my intention to attempt a summary, much less a discussion, of the general principles of the law of waters, but merely here and there to present certain points in a general way which may be interesting and instructive to you.

The Preliminary Proposition.

There is not time to go into the question of the distinction between the rights under the law of owners upon fresh waters as distinguished from those upon tidal waters—that distinction is largely a matter of history. Under the common law of England which is established in a country where the inland lakes and streams were small a sharp distinction was made between ownership upon tidal waters and upon fresh or inland waters. In the case of the latter, the riparian owner had an absolute ownership in the bed and exclusive right to the use of the waters resting or flowing upon the bed opposite his land even to the center of the inland stream or lake; while in the case of tidal waters his ownership stopped at the water's edge and his right of use to the bed extended only so far as was necessary to give to him as owner of his riparian lands the fair advantage of their location upon the waters in question. This distinction has been modified in this country, and in the case of inland lakes and streams the individual rights of riparian owners have been largely restricted. These inland waters have been divided by the courts into two general classes, those which are navigable and those which are non-navigable. As to those which are navigable, about the same rules have been applied to individual rights and ownership as were formerly confined to those connected with ownership upon tidal waters, and as to such waters the proprietary interest of the individual riparian owner either in the use of the water or of the bed of the lake or stream upon which his land is situated, is denied. The owner in such cases is the sovereign state which owns the bed, holding the same in its sovereign capacity as a sort of trustee for the public, and which in the same capacity controls the use of the waters and has therein a paramount right and interest principally for the purpose of navigation, but also for some other public uses. In the case of a non-navigable stream the individual proprietorship in the bed and the use of the waters is retained. But the departure from the common law rule is being even further extended; so that today in this state, for instance, the classification of navigable and non-navigable, as marking the distinction referred to, is out of date. The new classification is (1) those waters which, by reason of their navigability or otherwise

are fit for public use—"public waters," and (2) those which are useless for any practical public use and are therefore termed "private waters." Among those which are public are included, as I have said, not merely those which are in fact or in theory navigable, but those which are from their situation and adaptability useful for floating logs, for sailing craft and boating in a sense, which, properly speaking, does not include navigation, and included in this class are all streams which are directly tributary to the navigable waters of the United States.

Lamphrey v. State, 52 Minn. 181.

For instance, upon the Mississippi River, and upon such a lake as Minnetonka and other large lakes in the state, the owner of riparian land has a title in fee only down to ordinary high water mark. This ordinary high water mark is defined as the line marked by the the line of the change of vegetation upon the banks, which line is made by the varying stages of water from year to year. Below that line and to low water mark the riparian owner has, as appurtenant to his land, a qualified fee, that is, an absolute ownership subject to certain restrictions and uses by the public for purposes of navigation and other public uses. Below low water mark and throughout the bed of the stream or lake the title is in the state in its sovereign capacity.

In Re Minnetonka, 56 Minn. 513.

However, there is one principle in regard to waters which is applicable to all fresh inland waters and particularly to fresh water streams, and that is this: That, subject to the public uses if it be a public stream, and without such restriction if it be a private stream, the riparian owner has a natural right, by reason of his ownership of the riparian land, to the reasonable use of the waters as they flow past his land; and for this purpose, subject to protective regulations made by the holder of the paramount title, that is the State, the individual riparian owner may go upon the bed of the stream and construct and maintain such structures as may be necessary or desirable in order to give to him the full use and benefit of the waters naturally flowing past his land. So we have in this state, in both public and private streams, the main-

tenance by riparian owners of water power dams and other improvements.

It is impossible here to cover all points or to obviate some possible misunderstandings. It should be kept in mind that in some instances even the exercise of these property rights can only be had after fulfilling certain statutory requirements. This applies particularly to streams which are included in the "navigable streams of the United States"—a term which generally includes all navigable boundary streams and navigable streams tributary thereto. The construction and maintenance of dams on the bed of such streams are now governed by the Act of Congress of March 3, 1899, providing:

"That it shall not be lawful to construct or commence the construction of any bridge, dam, dike, or causeway over or in any port, roadstead, haven, harbor, canal, navigable river, or other navigable water of the United States, until the consent of Congress to the building of such structures shall have been obtained, and until the plans for the same shall have been submitted to and approved by the chief of engineers and by the secretary of war. Provided, that such structures may be built under authority of the legislature of a state across rivers and other waterways, the navigable portions of which lie wholly within the limits of a single state, provided the location and plans thereof are submitted to and approved by the chief of engineers and by the secretary of war, before construction is commenced." (6 Fed. Stat. 805).

Since this act was passed it has been customary as to the streams covered by the act, to get a special act of Congress authorizing the structure according to plans to be approved by the Chief the United States Engineers and by the Secretary of War. It is usual to require the structure to conform to requirements which may possibly be made in the future for the purpose of improving the river for navigation. The United States government authorities do not trouble themselves in regard to ownership of riparian land nor as to possible interference with the rights of others in the construction or operation of the dam proposed. The plans must include not only the plans of the proposed structure itself, but also a topographical showing of the bed of the stream in question for

half a mile or so below the proposed structure, and above the same as far as backflow by the dam is intended to be created, with full showing as to proposed head-races and tail-races. The act of consent by Congress must include proper restrictive and protective clauses in order to insure diligence in the exercise of the rights given and protection of the rights of the government in the interest of navigation.

But what we are right here interested in is the fact that, as a general proposition, riparian ownership carries with it a general right to the use of the waters of the river for water power.

But in all cases such use must be reasonable, that is, it must have regard for the reasonable use of others similarly situated either above or below. No unreasonable diversion or waste or interruption of the natural flow can be made. If the water is diverted it must be turned back to the river upon the estate of the user and above the land of the lower proprietor. A water power plant can use only such a quantity of water as is naturally flowing in the river. He cannot impound it by holding back the natural flow and at other times by using it in quantities larger than the natural flow and letting the increased quantity down to the proprietor below. He must construct and operate his works consistently with the proper and scientific method for the development and use of water powers and so that the lower proprietor may have his use at all times of the natural and undiminished flow in the stream. The riparian owner does not own the water. He has no element of ownership in it. He cannot permanently divert from the river a quantity greater than is necessary for the domestic uses of himself and family. He cannot set the water back upon the proprietor above. In short, he can do nothing which would interfere with the reasonable use of the natural flow of the stream either by the proprietor above or by the proprietor below.

Boundaries and Lines on Streams.

In many instances the riparian owner may not own rights upon both shores, but only upon one shore. In such case his rights of user and enjoyment are limited to the center of the stream,—to the *filum aquae*, as it is called in the books, to the

"thread of the stream." In an irregular winding stream and one of changing current, the question of the limits of his rights of use becomes important, and those are facts to be determined by the engineer and the surveyor. This question of the boundaries defining the limits of the use of riparian owners of the bed of the stream and as to the location and operation of his structures when placed in the stream, and indeed as to the fixing of his boundaries upon the stream, are matters which are directly connected with the profession of engineering and surveying. Many of these questions have been well settled by the authorities, and as to others there has not been much, if any, precedent. As one of the questions which might interest you I shall call your attention to some of the problems which arise in the fixing of the boundaries upon streams and in the bed of streams,—the determination of the limits of the rights of the riparian owner.

Boundaries on Streams.

When the riparian owner owns land upon both sides and for a long distance above and below his point of improvement, there are no conflicting claims likely to arise, but it often happens that the riparian owner has ownership only upon one shore. Taking that for an example, what are his rights? Whether the stream is navigable or non-navigable, as I have stated, he has a right to the use of his bed of the stream opposite his land to the thread of the stream. If we have, then, defined the line which is, properly speaking, the thread of the stream, we have the up and down river line fixing the limits of his rights in that direction. But then the question arises, especially in the case of irregular streams: What are the rules by which are to be determined the lateral boundaries of his rights, that is, the lines, above and below, which run from his riparian land to the line which is determined as the thread of the stream. When the principles of law are determined which control the manner of laying out these lines, then and only then is the engineer or surveyor in a position to locate the lines correctly.

Now, in the first place, as to the up and down river line, which is the thread of the stream, it has been too often assumed

and stated that the thread of the stream is the center of the current of the stream, that is, the center of the main current, and that that is a matter to be determined by observation; but this is manifestly an unjust and inequitable rule, for in most instances the current changes from year to year and even in different times of the year according to the stage of water. The right in question is one which cannot be a varying right, but it must be a fixed and definite right and upon the definite establishment of which investments may be safely made for improvements. Other erroneous assumptions are made and sometimes stated, even in the books, as to what the thread of the stream is, but the proper rule and the one which is supported by the best authority, and I believe I may say now generally accepted, is this:

The Thread of the Stream Defined: The thread of the stream, as used in matters connected with riparian ownership and rights, is a straight line opposite the riparian land in question, lying along the general course of the stream at that point and situated half way between the general course of the banks of that stream opposite the riparian land in question. Moreover, in determining the general course of the banks of the stream exceptional irregularities in the shore are to be disregarded. This line is independent of the location of the main current under any stage of water. It is a line which in most cases can be defined as being the "center of the stream." It must be so located and laid out that as to the points in question it is a straight line.

It will be seen that it is not difficult as to any particular piece of riparian land to determine under this definition the location of what, as to that piece of land, is the thread of the stream. This line represents the farthest limits from the shore of the boundaries of the right of use belonging to the owner as a part of his riparian tract.

As to Lateral Lines: We have next to determine the lateral lines, that is, the lines extending from the shore to the thread of the stream above and below and which mark the up river and down river limits of the right of use of the riparian owner.

Here again we have a matter about which there has been considerable dispute and curious mistakes made both by members of your profession as well as those of my own. It has

too often been assumed that these lines are determined by an extension of the upper and lower boundaries of the riparian tract as they approach the water. This has sometimes been stated by courts to be the rule. It is often assumed by surveyors to be the rule. Indeed, a statute of our state which exists today assumes a similar rule in providing for the jurisdiction of counties in civil and criminal cases "upon rivers or other waters which constitute a common boundary to this and any adjoining state." It is provided that the counties bordering upon such waters

"shall be deemed to include so much of the area thereof as would be included if the boundary lines of such counties were produced in the direction of their approach and extended to the opposite shore."

Sec. 91, Revised Laws 1905.

The same rule is laid down expressly by another statute with reference to the jurisdiction of counties upon Big Stone Lake, Lake Traverse and Red River of the North.

Ch. 242, Laws of 1905.

But it only takes a moment's consideration, especially if pencil and paper are used, to demonstrate the absurdity and inequality of such a rule. In the case of the statutes mentioned, the boundary lines of the counties approach the streams in question at angles varying from one which is nearly at right angles to the thread of the stream to an angle which is nearly parallel with the stream, and the result in the case of the statute is, that there is a conflicting, or at least, a double jurisdiction in many instances between adjoining counties as to both civil and criminal matters which arise upon the waters in question.

So the riparian tract in many instances may have its boundary lines upon the shore and as they approach the water lie in such a way that the shore line is the base of a large triangle, or in another instance so that the shore just cuts the apex of a triangle, that is, a triangle made by the upper and lower boundary lines which when extended would form a triangle with the apex situated perhaps between the shore and the thread of the stream. So in the same way various instances can be

imagined and be found in experience where the extensions of the upper and lower shore boundaries as they approach the stream, if used to limit the upper river and lower river limits of riparian owners' rights of use would be inequitable and would result in many conflicting claims of right and use, as in many instances extensions of such shore boundaries would cross each other before they reached the thread of the stream.

Another instance of error of this sort has been put of record in the statutes of this state, although not now in force by reason of the repeal when the Revised Laws were established two years ago. It was attempted by the legislature of this state in the year 1897 to establish by statute the rules upon the question which we are now discussing. Indeed, the statute of 1897 attempted to cover the entire subject of boundary lines between different parties having an interest in the bed of a stream or lake. After providing for classification between public and private waters and then providing as to the ownership in the beds of private and public lakes, Section 3 takes up the definition of ownership and boundaries upon rivers. This attempt of the legislature to cover the subject which we are now discussing resulted in a statute which was for the three years that it was in force the despair of the courts and a puzzle for the engineers. To show you a sample of the scientific and legal learning emanating from the wise ones of our state legislature, I will read you the first part of Section 3 of the act in question, upon which, with the aid of most accomplished engineers, I once spent hours vainly trying to decipher its meaning; but we could reach no solution either from a legal standpoint or from an engineering standpoint. This section reads as follows:

"Sec. 3. In all cases where any river or other stream including any marsh or swamp appurtenant thereto has been or may hereafter be meandered in the United States government survey of any of the land within this state, the owner of lands abutting upon said stream or river shall be the owner of the bed of said stream, with all accretions or relictions, or intervening islands to the thread of said stream; or if said stream dries up then to the point where the thread thereof was located; and the lateral boundaries of said shore owners shall be straight lines extended from the widest point on the meander lines across the tract of

said shore owners to the thread of said stream, running parallel with the lines of the government survey, and intervening irregularities of the actual shore line of said stream shall be disregarded if they cross or conflict with such straight lines so extended. Provided, that if by reason of the convolutions of said meander line such straight lateral lines so extended in the direction of the thread of said stream would intersect before reaching said stream with some other point of said meander line, said lateral line shall nevertheless be extended straight to such point of intersection, and from such point the intersecting meander shall be the boundary line of such tract to the point constituting the extremity of the narrowest clear space between such exterior meander line and said stream, and from thence a new lateral line shall be extended parallel to the first to the thread of said stream."

Sec. 3, Ch. 257, Laws of 1897.

That's the way it reads. (Laughter).

You see, the bare reading of it can bring forth only a laugh from either a lawyer or a surveyor.

It may be a fortunate thing that this statute is no longer in existence. Competent engineers have pronounced it contradictory and for the most part meaningless, when viewed from a scientific or practical standpoint. Our Supreme Court in 1900 declared it unconstitutional, because it attempted to fix by legislation boundary lines which conflicted with the actual property line under the law of property rights.

Shell v. Matteson, 81 Minn. 38.

Then in 1905, when the revision was enacted, this law of 1897 was repealed. However, for a period of eight years this statute was a stumbling block for a great many engineers and surveyors as well as for the lawyers and the courts. For three years it was like a pirate ship casting consternation into those who were sailing regular craft, that is, those who had proper regard for the law of property rights and who were skilled in the science of boundary lines. It was badly shattered by the decision in 1900 of the Supreme Court referred to, in which most of its provisions were declared contrary to the law of property rights and therefore unconstitutional; but it con-

tinued to float like a direlict until it was finally sunk and put out of sight by the repeal of 1905.

And right here it occurs to me that I might follow a suggestion just made to me by your Secretary, Mr. Morgan, that I explain the difference between what is known as the "common" law and the "statute" law, upon these matters. Upon this point, it will probably be sufficient for your purposes to say: that, while the common law and the statute are not entirely distinguishable, the two terms, generally speaking, refer to two different sources from which the law of property rights is derived. The common law refers to those principles of law which were embodied in the laws and decisions of England and which became, for the most part, the foundation of our American jurisprudence. The common law of this country today includes those rules of law which have been established by the decisions of our courts in applying the common law of England to the jurisprudence of this country. These decisions are found in numerous reports which are preserved and from which by comparison and compilation the general common law of the land is formulated. While not entirely unchangeable there have under the decisions as to personal and property rights grown up certain general rules which are fundamental and under the protection of which every citizen is supposed to enjoy certain fundamental personal and property rights. The protection intended by such fundamental rules is guaranteed with certain limitations by the fundamental law of this nation—the Federal constitution; and it is further guaranteed in various ways and to a varying extent by the different state constitutions. The limitations cannot be exactly defined, but it is the common law, so framed, which fixes certain primary rules regarding personal and property rights which are paramount, and which no statute may take away or abridge. Furthermore, the common law establishes by precedent the rules under which statutes may be enacted, construed and enforced. The statute law of the land is the result of legislative enactment and is recorded in the statute books. The legislative powers, however, are limited by fundamental rules established by the common law and can be exercised only as to such subject matter and to such extent that the fundamental law of property and personal rights, which exist independent of statute, is not infringed. It therefore rests with the courts

to determine finally whether a statute is or is not valid. For instance, in this matter of which we are talking today, if the fundamental law, that is the common law, has established that a certain rule defines the limitations of a person's ownership of land, and the person has acquired property and his rights have become vested under that law, he cannot be deprived of his rights by any statute, subsequently passed, although by the terms of that statute the limitations of his ownership are clearly attempted to be changed. This does not mean, however, that the rights of an owner in one state must be precisely the same as those of an owner similarly situated in another state, and this is particularly true with regard to the rights of riparian owners upon lakes and streams. Within certain limitations it may be true, and in fact is true, that there have grown up in one state by the common law as there construed and enforced, or by the statute law as construed and enforced, or by both, limitations affecting ownership different from the limitations which prevail in another state. It is from this fact that we find that the rules for establishing boundary lines under similar circumstances are sometimes different in Iowa, for instance, from what they are in Minnesota.

Now, returning to this boundary line statute of 1897, it is interesting to note that this statute gave undue prominence to the significance of the meander lines established by the United States government. I shall later discuss briefly the true significance of meander lines. But this statute provided, in so far as it provided anything, that the meander lines as they were laid out on the shore land in question should be the basis not only of determining the thread of the stream, but also of the lateral lines, that is, the lateral lines above and below defining the limit of the riparian owner's interest in the bed of the stream. It provided that the thread of the stream should be a line substantially parallel with the meander line of the shore and across the tract in question. It further provided that the lateral lines, should be lines drawn at right angles from the meander lines to the thread of the stream as so found,—the upper boundary from the intersection of the meander line with the upper lateral boundary of the tract; and the lower boundary from the intersection of the meander line with the lower lateral boundary of the tract and extending from these points at right angles, as I have said, to the thread

of the stream. It is known, of course, that substantial changes in the flow of the stream and its banks might and probably have taken place since the location of the meander lines, and the result of using such a rule as laid down by the statute would be that inequitable and conflicting claims of right would arise.

What, then, is the proper rule for finding the lateral boundary lines; defining the rights of the riparian owner in the river? We have found that it cannot properly be the extension or production of the lateral lines of the shore tract produced in the direction of their approach to the shore, and we have also found that they cannot be based upon the location of the meander lines. The rule is this:

The Rule for Finding Lateral Boundary Lines.

Having found the thread of the stream according to the rule heretofore stated, the lateral lines which mark the limits of the riparian owner's interest in the bed of the stream are found by taking the two points of intersection by the lateral lines of the shore tract with the shore lines of the stream, as such shore lines exist at the ordinary or medium stage of water, and from those points drawing lines at right angles to the thread of the stream.

Pinney v. Luce, 44 Minn. 371.

Pratt v. Lamson, 2 Allen (Mass.) 285.

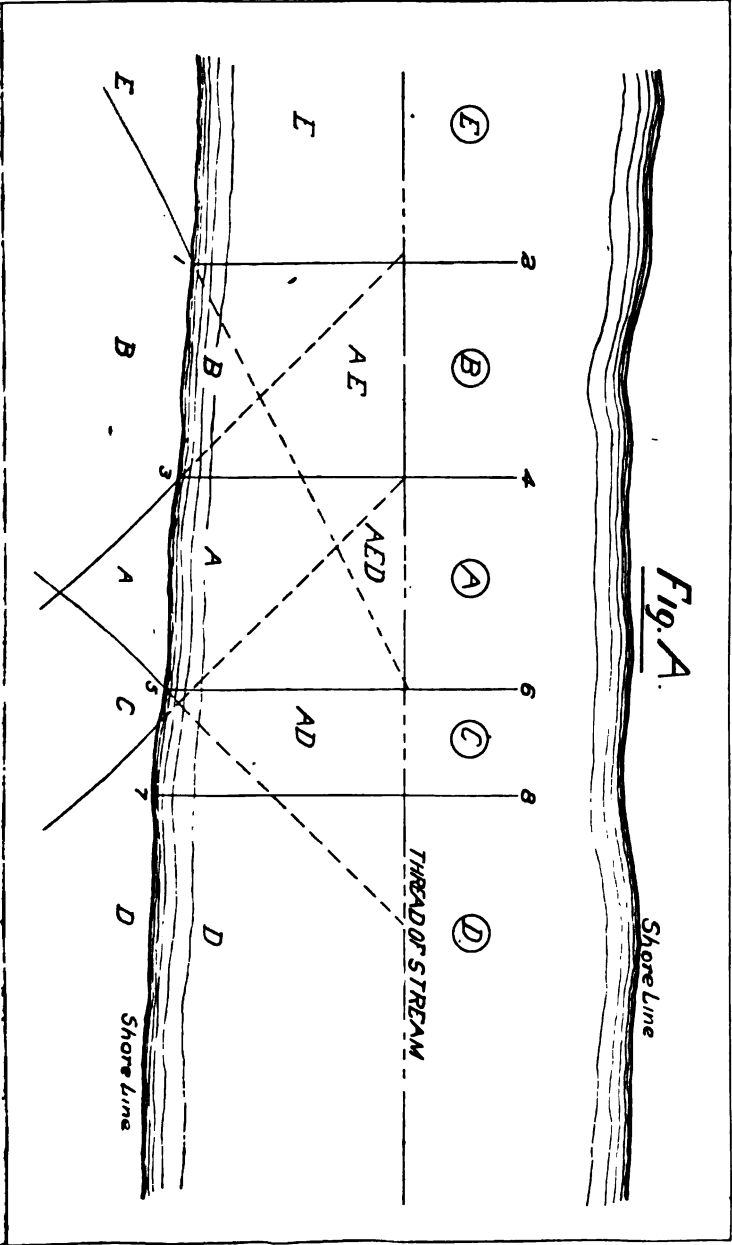
Bridge Co. v. Dubuque Co., 55 Ia. 558.

Tappan v. Water Co., 157 Mass. 30.

Knight v. Wilder, 2 Cush. (Mass.) 209.

Clark v. Campau, 19 Mich. 329.

Gas Light Co. v. Industrial Works, 28 Mich. 182.



The annexed diagram illustrates the difference between the application of the right rule and that of the wrong rule in the matters in question. A stream is shown with the thread properly laid out. The shore lines are shown as they are assumed to exist at the ordinary stage of the river. The shore tracts are the tracts "A," "B," "C," "D" and "E." The dotted lines in the river show the conflicting claims which would arise from an application of the rule of an extension of the upland boundaries into the river. The solid lines at right angles to the thread show the proper lateral lines fixing the rights of the owners of the various riparian tracts in the river and between the shore and the thread of the stream. It will be seen that the extent of the rights in the bed of the stream is controlled by the extent of the ownership upon the general shore line of the river and not by the acreage of the upland nor are they affected at all by the direction in which the upland boundaries approach the shore. Of course, it should be kept in mind that in determining the general shore line, and therefore also in determining the thread of the stream, exceptional irregularities in the shore line must be disregarded. The basis must be the general shore line at the ordinary stage between the points in question.

From the rules which are just laid down and which may be taken as the established rules under the authorities, the boundary lines of any riparian owner's interest and rights in the bed of the stream may be determined. Of course, if the riparian owner owns lands upon both shores, the questions to be determined are as between him and the owners which are above and below. If he owns simply upon one shore, the questions involved will then also include his rights as against those of the opposite shore owner.

The location of the rights of ownership and use in the bed of the stream having been determined, the only other question to be determined in such cases would be as to the comparative rights to the use of the water flowing in the stream. It is often the case that a riparian owner upon one shore wishes to develop water power by means of a wing dam without acquiring opposite shore rights so as to construct and maintain a dam clear across the river. In such cases the right which he has to locate and maintain his wing dam and his structures for the improvement of the water power would be determined

by the rule already found for fixing his boundary lines of property rights within the river and keeping in mind of course other rules in regard to reasonable use, that is, proper regard for the rights of those above and below. His right to the use of water for power by means of such a wing dam is not limited to simply half the water in the river. He may use such quantity of water as may come to him and be available for his use by means of the structures when built and maintained within the lines of his property rights, that is, he may build a wing dam along the line of the thread of the stream as above defined and extending to the upper line of his property right in the river. If, perchance, he gets more than half of the water flowing in the river by such means, (e. g., as by reason of location of currents) the opposite owner cannot complain. That is, he cannot complain until he, too, desires to develop the water power upon his side and such development is feasible. Until such development upon the opposite side the riparian owner upon one side may develop his water power and use all the water that he can get by means of the structures when built and maintained within the lines of his property rights. However, he can get no prescriptive rights to use more than half of the flow of the river as against the rights of the opposite riparian owner. The rights to the use of the water flowing in the river as to quantity are such that each of the opposite riparian owners has a right to use half of the flow, and this right is independent of the comparative quantity which flows upon either side of the thread of the stream.

Pinney v. Luce, 44 Minn. 371.

Minn. L. & T. Co. v. St. A. F. W. P. Co., 82 Minn. 505.

Boundaries on and in Lakes.

Of course, when it comes to determine the boundary lines of a riparian owner's rights in the bed of a lake, a different rule must be applied; for, generally speaking, in a lake there is no thread of the stream. In order to illustrate the fundamental rule, we have to assume a lake of circular form; and thereafterwards indicate what are probably necessary variations from the exact general rule to meet the variations from

the theoretical form of the lake assumed as a basis for the general rule.

There comes, first, the general proposition as to the rights of a riparian owner in the bed of a lake—that is the question of what ownership or rights the riparian owner has in the bed of the lake by virtue of his ownership of the shore land, and without now assuming the case of land added to the original shore land by reason of the recession of the lake. Such riparian rights in the bed are different, according as the lake is: (1) a public navigable lake, and (2) a private lake.

In the case of both classes of lakes the points from which boundary lines are drawn into the lake from the shore, start at the same points, to-wit: at the intersections of the upland side boundaries of the riparian tract in question with the shore line; and by "shore line" is meant the line of the shore as the same exists at the ordinary stage of water. So far these points are the same as in the case of streams; but in the theoretical lake which I have assumed, there is no thread as in the case of streams, but instead thereof a point, which is the center of the lake. Therefore, the side boundary lines are the lines drawn from the shore points already defined to the center of the lake. This is true as to both classes of lakes. But the water limit is different in the two classes. In the case of public lakes the riparian owner has the same ownership and use in the bed as that which has already been defined as applicable in the case of public or navigable streams, to-wit: He has an absolute fee to ordinary high water mark. He has a qualified fee between ordinary high water mark and low water mark. Below low water mark he has no title or interest different from the rest of the public but below that point the ownership of the bed is vested in the state.

In re Minnetonka, 56 Minn. 513.

Accordingly, in the case of public lakes the extent in the lake of the riparian owner's title or interest is within the boundaries as above defined: (1) one line being the shore line, (2) another line being the line of ordinary high water mark or of low water mark, as the case may be, and (3) the lateral boundaries being laid out as above defined.

In the case of private lakes the extent of the riparian ownership would be all the bed lying in the triangle formed by the

shore line and the two lateral lines extending therefrom to the center of the lake.

We have excepted the cases calling for decision as to ownership of land formed by recession of the lake and lying between the original shore line of the riparian owner and the lake as receded. As to the riparian owner's rights in such land a different rule of boundaries is applied. We are still assuming a lake of substantially such shape that its central point may be located by surveys. This question is an important one as, particularly in this state, many lakes are receding and their shore boundaries are changing. As a general proposition any accretions to the riparian land by reason of the natural recession of the lake, whether such lake be public or private, are added to the riparian land and become a part of it. This is true only within the limits of the boundaries properly laying out the riparian owner's rights as to such land left by recession. It is wrong, as some courts have held, in fixing boundaries in such cases, to extend the lateral lines of the shore tract in the direction that they approach the shore for the purpose of determining the riparian owner's rights in the bed of the lake or for the purpose of determining the riparian owner's rights in land created by recession. By so doing some riparian owner would get more than his proper share and others less. How then shall we parcel out to the riparian owner his share of this land left by recession? The same rule is fixed for laying out boundaries in such case as is fixed for the laying out of the riparian owner's share of any upland which may have originally lain between the meander line and the lake itself; for his ownership does not stop at the meander line nor is the meander line laid out for the purpose of limiting his shore ownership. However, in the cases now under consideration the meander line is an important factor and the rule is this:

The riparian owner's right and ownership in land between the meander line and the lake, including land added to the natural shore land by reason of the recession of the lake is determined as follows: From the two points of intersection by the two upland side boundaries with the meander line, draw lateral lines to the center of the lake. The land between these two lateral lines so drawn and lying between the meander line and the lake belongs to the owner of the riparian

tract in question.

The above applies particularly to public meandered lakes. In the case of private unmeandered lakes the rule would be the same, except that the lateral lines would be drawn from the intersections of the upland side lines with the original shore line instead of from their intersections with the meander line.

A distinction must be made between the conditions existing in the case of lands added by natural recession of the lake and the case of lands added by artificial, and especially by any sudden artificial means, as by drainage. What the riparian owner is entitled to, as his addition in such cases, is the natural accretion. The same would also probably apply to the indirect results of some artificial improvements in the way of drainage. But in the case of a sudden disappearance of a public lake from artificial causes, such as direct drainage, the riparian owner would not probably be allowed to add to his holdings, through such act of drainage, which unless accomplished through proceedings under the law, would be an unlawful act.

In passing let me now make a statement as to meander lines.

As to Meander Lines.

The relative importance and significance of the meander lines which are run by the United States government have been too often misunderstood. The Federal government in surveying the public lands and preparing them for settlers ran meander lines along the shores of lakes and streams which were of such a size that they could not conveniently be included in the measurement of the land. The various fractional sections were described with reference to these meander lines; and the question has often arisen whether these lines were intended to be boundaries or not. Nothing is better settled now than the general rule that these meander lines were not in fact, nor intended to be, boundary lines, but that the body of the water is to be regarded as the true boundary line.

2 Farnham on Waters, Sec. 418.

St. Paul & Pac. Ry. Co. v. Schurmeier, 7 Wall. 272.

They were run not as boundaries of a tract of land, but for the purpose of defining the sinuosities of the stream or lake, and as a means of ascertaining the quantity of land in the fraction subject to sale and which is to be paid for by the purchaser. The fact that by carrying the boundaries to the water the grantee receives more land than he pays for does not alter the rule.

2 Farnham on Waters, Sec. 418 and cases cited.

Nor is the riparian owner bound by what happens to be the location of the meander line even on the question of what in fact are the sinuosities of the bank. It is assumed that the meander line may have been roughly located and may not have properly indicated at any particular point what the actual sinuosities of the stream were. In many cases a most cursory inspection shows that the meander lines are not indicative of the sinuosities of the stream. More than that, changes in the stream since the meander lines were laid out occasion increasing and varying differences. The question of the sinuosity of the stream, its direction and the general direction of its banks for the purpose of determining the thread of the stream, are questions of fact to be determined by actual survey upon the ground. The question of the amount and quantity of land added to the original riparian land by accretion or by recession or by any natural change is a question of fact to be determined by actual surveys and the records of actual surveys. These questions of fact are all to be fixed and determined by the engineer and the surveyor, and include also matters of history so far as the same can be determined and proven by competent evidence. It is true, there are certain cases where the fact appears that the meander line was not intended originally to have any reference to the banks or shores of a lake or stream, and was intended and has been used itself as a boundary line. In such cases, of course, the intention prevails, but those cases are exceptional. High and dry land between a meander line and the shore of a lake or stream, whether navigable or not, belongs to the abutting owners as though it came from accretion or reliction, the side lines of such land extending to points from their intersection with the shore meander line to the center of the lake; or if it is a case of a stream, by lines from the shore intersections at right angles

to the thread of the stream. The rule as to the meander line not being a boundary line applies equally when the line is run in the water. The title of the riparian land in such cases stops at the shore.

2 Farnham, Sec. 418 and cases cited.

It is true that the points of law here discussed vary somewhat in different states, for it has been held that the question of the boundary lines which limit the riparian owner's rights in the bed of streams and lakes and as to the extent to which the meander lines of the United States government are controlling, is a question of local law. There is not a wide variance between the law on these points of the different states; but the rules which I am giving are those which have become the well settled law of the State of Minnesota.

Hanson v. Rice, 88 Minn. 273.

Shell v. Matteson, 81 Minn. 38.

In the latter case it was held that the lateral lines which limit the riparian owner's right in the bed of a lake that has receded are to be drawn to the center of the lake from the point of intersection of the meander lines with the lateral shore lines of the tract.

An interesting case regarding the restoration of lost and obliterated meander lines and corners was recently decided by the Minnesota Supreme Court and it was there held that "calls" for the determination of boundary lines where inconsistent should be given effect in the following order, namely, (1) natural objects, (2) artificial marks, and (3) courses and distances, and where the call was for an existing lake, that took precedence over the call either of distance or the inferential call for quantity.

Klven v. Gunderson, 95 Minn. 246.

It has been held in this state that when a government lot abuts upon a lake, the shifting water line and not the meander line is the boundary of the lot, and a description in a deed by metes and bounds will be determined by ascertaining the monuments and boundaries by the metes and bounds description without regard to the statement of quantity; that is, the statement of quantity will be rejected if the metes and bounds

description measured to the shifting water line and independent of the location of the meander line, can be determined. *Sherwin v. Bitzer*, 97 Minn. 252.

Another recent Minnesota case confirms the rule above stated for determining the riparian owner's rights in land created by recession on the shores of a meandered lake.

Markusen v. Mortenson, (decided June 26, 1908), 116 N. W. 1021.

As to Irregular Lakes.

The rules which I have stated as applying to streams and also those stated as applying to lakes, have assumed in the one case a stream with a regular course and in the other case a lake of substantially circular form. On account of the contour of the shores it is sometimes difficult and even impossible to apply the general rule. However, in such cases the rule for fixing the property rights would start from the general rule applicable to the general conditions assumed and would vary the application of the rule according as the varying circumstances demanded, with the view to adjusting the questions involved with equity between the parties.

In the case of a stream, the thread of the stream might become a curved line, which in fact and in theory is made up of many straight lines. It would be possible always to figure out a working rule based upon the general rule and based upon the proposition, that it is the extent of the general shore line rather than the acreage in the upland, which is the main basis for measuring the riparian owner's rights in the stream or lake.

In the case of lakes, the variations are sometimes much greater and there would be greater difficulty in applying the general rule. Some lakes are substantially, and very often in fact, merely streams. Sometimes parts of a lake partake of the nature of a stream rather than of a lake. It is safe to say that wherever a lake, or any part of a lake, is so extended that its general lay is in the nature or form of a stream rather than that of a lake,—that in such case, instead of attempting to locate an impossible center as the point to which the lateral

lines above spoken of should run, a "thread of the lake" should be laid out, in the same way as a "thread of the stream" in the case of streams; and that the lateral lines would run at right angles to such "thread of the lake." But between the two cases, a theoretically circular lake whose center point can be approximately located by survey, and a narrow extended lake partaking of the nature of a stream and which, as it cannot have a center point, must have its thread laid out as in the case of a stream,—between these two extreme cases we have innumerable variations. But it is obvious that as to any particular lake, or as to any particular part of a lake, not possible of treatment on the basis of either of these two extremes, a proper basis should be found, lying directly in line between the two extremes just mentioned. For the variation in shape between the circular lake and a stream is brought about by gradually extending the circular lake, through various forms of the ellipse, to that of a stream. If the lake is neither circular with a possible center nor sufficiently elongated so that its contours assume those of a stream, such lake, or such part of a lake, can be treated as some form of an ellipse. An ellipse, properly speaking, has not a center (in the same sense as has a circle), neither has it, properly speaking, a thread; but it has something which corresponds to both. It has two foci, and the line between those two foci is that which, when the ellipse is extended into the form of a stream, becomes the thread and which when the ellipse is contracted into a circular form becomes the center. This line, then, in the case of an elliptical lake must be used as the basis for the measurements herein spoken of. Therefore, in all such cases the boundaries would be found in the same way as already suggested, except that the lateral lines would run, not to a point, nor necessarily at right angles to a thread. These lateral lines would be the shortest distance lines between the shore points as already indicated and the line between the two foci of the ellipse. It is plain to see that such lateral line, in case it did not run at right angles to this line between the two foci would intersect one of the foci.

The manner in which these rules are applied is illustrated by the annexed diagram shown in three figures, "B," "C" and "D." "F" in each instance indicates the center point of the

lake if circular, or the foci of the elliptical lake if it is an ellipse. The shore tracts "A," "B" and "C," etc., used for illustration are shown with their upland shore boundaries. The points "a" and "a," "b" and "b," "c" and "c," etc., show the assumed points of intersection between the upland side boundaries and the meander line, the latter being shown as "m-m." The lateral boundaries between such meander line and extending into the lake are shown by dotted lines, as they would vary under varying circumstances assumed, figure "B" representing a circular lake, figure "C" an elliptical lake and figure "D" a lake lying as does a stream.

I do not find that any court has extended the rule as to variations, in the way in which I have stated; but I do not see how such application of the rule could be avoided, in a case involving the peculiar conditions assumed, especially if the decision were to be made as far as possible consistent with the general rule in the normal case, which is well established in this state. To make the "center" of a long elliptical lake the objective point of the lateral lines referred to, would be to give undue advantage to owners of tracts on or near the end of such lake, as against owners on the sides of such lake. The extent of their respective rights to lands formed by the drying up of the lake would be determined, not by the **extent** of their shore lines (which is the only logical basis), but by their particular locations—those farthest from the center of the lake getting most.

It is obviously impracticable for the courts, with the help that surveyors could give, to solve the problem here discussed, on the basis of always running the lateral boundary lines to some point in the lake which must be fixed as the "center" of the lake. Such a method is particularly unfeasible in Minnesota, where the widest variation exists in the contour of lakes, and where there are lakes, or parts of lakes, long and narrow, and more or less sinuous and showing all the characteristics of a stream with the latter's varying sinuosities; and where also many a lake, although under one name, is made up of practically two or more lakes; and where sometimes an entire lake is, or different parts of the same lake are, of such form that no treatment on the basis of an assumed circular form is possible. It is true, however, that every lake, or, if its shores are very irregular, each of its several parts,

where it cannot be treated as substantially a circle on the one hand or on the other as a stream, may be solved as substantially covering an ellipse. As any surveyor can locate the center of a circular lake so he can locate the two foci of an elliptical lake. More than that, the solution here suggested in the case of an elliptical lake gives results approaching the methods of measurements laid down for a stream, or on the other hand approaching the methods of measurement laid down for a circular lake, just exactly in proportion as the contour of the lake in question approaches the one or the other of the two extremes as to which rules of measurement have been established. The method here suggested is, therefore, not repugnant to, but entirely consistent with, the rules of measurement which have been established by authority. If a proper application of the established rule is to be made for cases of exceptionally irregular lakes, the method here suggested is the most feasible means of so doing. It is the only logical and consistent way for treating very irregular lakes or lakes with very irregular parts. It should be borne in mind that in determining the question whether measurements on a particular lake are to be solved on the basis of treating the lake as a circle or as a stream or as an ellipse, any and all exceptional irregularities in the shore line of the lake, or of the particular part of the lake in question, should be disregarded. The ellipse or the circle, as the case may be, which is to be used as the basis, may at some points pass without and at other points pass within the actual shore line. In all cases, however, if the contour is substantially that of a circle, then the basis of the circle should be used; if the contour is substantially an ellipse, then the basis of the ellipse, as here shown, should be used. I commend this for your earnest consideration, as I should urge it for the consideration of the courts in any case presenting the reasons here suggested for its application.

Fig. B

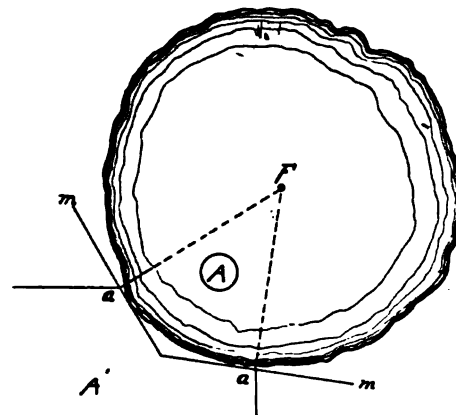


Fig. C

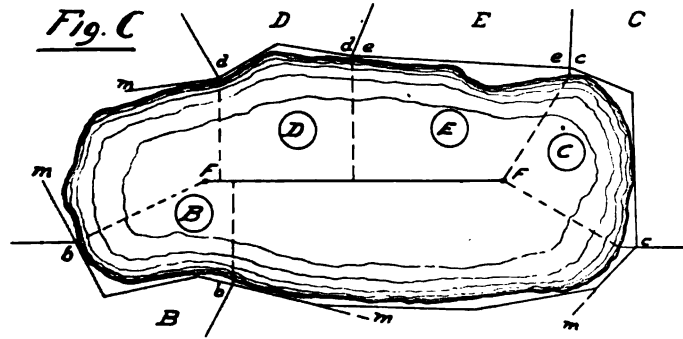
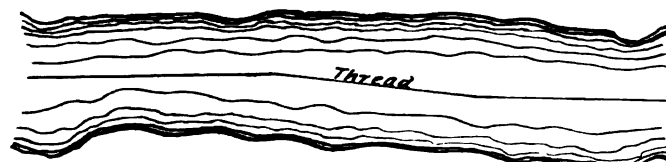


Fig. D



(Same as in Streams - See Fig A)

As to Calls Up and Down Stream, Etc.

Ordinarily, unless there is some peculiar circumstance requiring an exception to be made, a riparian owner of a tract bordering upon a stream owns, as I have stated, to the center of the stream if it is a private stream, or, if it is a public stream, he owns to ordinary high water mark, with a qualified ownership to low water mark and certain rights of user in the bed to the center of the stream. However, in many surveys and descriptions of the shore tract the terms are so varying that there has been a distinction between calls which include the stream and those which exclude it. These distinctions, of course, are particularly important and interesting to engineers and surveyors and the distinctions have been pretty well settled by the authorities. The following calls for points or lines in connection with the stream have been held to include the rights of the riparian owner to the center of the stream:

A tract of land described as "upon the bank" of a stream. Or a call for a corner or line "at the stream." Also a call "thence north to the shore." So a boundary running to a monument standing on the bank and "from thence running by the river or along the river." So a call describing lines as "to a tree on the bank of a river thence up said river" locates the line at the thread of the stream. So a survey running "to a point on a river" and "thence down said river." So a description running from a given point "to the mouth of a certain stream" and "thence ascending said stream."

So, of course, all cases where the stream itself is referred to as the boundary line.

All the above descriptions referred to include the stream itself to its center.

However, if the land is bounded by a line described as "running along the bank of a river" or "along the margin of a river," it does not convey to the middle of the stream. So in cases where the "shore line" or the "line of the bank" is stated as the boundary line. So a description running "along the water's edge" to a stake. So again where the description is to the top of the bank and thence running "along the top" of the bank.

There are many differences in the application of these dif-

ferent phases, but in general the rule has been as above stated.

There are certain kinds of descriptions or calls which do not carry the boundary of the shore tract even to the water's edge. Many surveyors do not sufficiently consider or weigh the technical meaning of the words employed in notes and descriptions and very often the words "up a stream" or "along a shore or bank" are taken to mean the same as if the words used were, "in, by or along a stream," but the courts make a distinction. In the former case generally the stream itself is excluded. In the latter case it is included, that is, to the center.

Such a description as "up a brook due west" to a certain point, or "thence north down the stream" to a certain point, do not necessarily include any part of the stream nor to the water's edge. The effect must be given in each instance to the direction "west" in one instance and "north" in the other case, and the line must be a straight line and not along nor in any wise affected by the course of the stream..

A call "from a fixed monument on the edge of a creek up the same by a single course to another fixed monument on said creek" means a straight line from one monument to another and not one following the windings of the creek. In all cases it is the intention of the parties as deduced from the words used which governs; but the decisions of the courts have given to certain words a technical meaning, and when these are used the intention of the parties is held to be that which is included in the technical meaning instead of that which might have been in the minds of the parties. It is, therefore, important to distinguish properly between the phrases which have been held to include the stream and those which have been held to exclude it. It may be said, in passing, that where areas of shore tracts are stated in a description, those are usually understood not to include the area which lies under water.

The foregoing statements with reference to calls up or down a stream, etc., are statements only of the general rule governing such matters. However, there is a general principle as to construing such descriptions which has been recognized, particularly in Minnesota, and that is this: Where a shore tract is conveyed it will be presumed, from the general fact that it is a shore tract, that the grantor intends to convey

all riparian rights naturally appurtenant to such shore tract. He may by proper words reserve the riparian rights, and by proper description exclude them, but the presumption in favor of his including them will govern, unless a contrary intention is expressly shown by the terms of the grant. Accordingly, in cases where the land granted was obviously riparian land the Minnesota court has held that a call "thence north along said lake shore," from a point fixed as "to the shore," carried with it the riparian rights.

Gilbert v. Emerson, 55 Minn. 354.

Castle v. Elder, 57 Minn. 289.

This illustrates how modifications are made in the application of the general rule.

It is a safe rule to follow in fixing descriptions for the conveyance of riparian land or of land on or near the shore of streams and lakes, to have expressly stated the intention of the parties and not leave the question of the effect of the description to the construction of the courts. Parties who are dealing honestly can always agree upon their intentions in this respect so that such intention may be expressed. If any shore or riparian rights are intended to be reserved by the grantor, let such reservation be stated clearly and definitely. On the other hand, if riparian rights are intended to be included, let such inclusion be definitely and expressly stated. In all these matters, as in all matters of construction of grants, it is the intention of the parties as deduced from the instruments which governs.

It should be kept in mind that a different rule may exist in different states and that these matters are largely the subject of local law. Indeed, within the same state we sometimes find instances where in one locality one rule of ownership in beds of streams and lakes applies and in another part of the same state another rule. These, however, are exceptional instances. In Minnesota, as we have seen, the riparian owner on public streams has an ownership in fee to ordinary high water mark with a qualified fee to low water mark and only a right of user in the bed of the stream to the center. In other states, like Wisconsin, and many other states, the title in fee goes to the center of the stream the same as in the case of private streams, the only difference being as to the para-

mount rights of the public in the one for the purpose of navigation which do not exist in the other. On account of early colonial grants a peculiar and exceptional rule exists in Massachusetts as to the great ponds in that state. The same is true in the state of Maine. So in New York, along the Mohawk Valley, on account of early colonial grants, the title in the bed of the stream belongs to the riparian owner and is different from that of the owners upon other navigable waters in the state. It is not necessary at this time to discuss these distinctions.

On all these points see

Wait, Law of Operations Preliminary to Construction in Engineering and Architecture, Secs. 406-414.

I had outlined for your consideration some further points connected with the law of waters which would be interesting and instructive to you,—points in regard to rights as between the public and riparian owners in plans and construction for public water supply; points in regard to the pollution of waters; points as to relative rights of adjoining land owners in discharging surface waters by artificial means; points as to the law governing the appropriation of waters, especially for irrigation; and some practical suggestions as to the preparation by engineers for law suits, including the preparation of evidence and the giving of testimony, especially in matters pertaining to water rights. But I have already reached a proper time limit and I will reserve further discussion of these matters for some future time. I thank you for the interest which you have shown.



OBJECTIONS TO H. F. No. 76.

BEING A BILL FOR AN ACT TO CREATE A WATER SUP-
PLY COMMISSION AND TO CONFISCATE BY
THE STATE THE PROPERTY AND RIGHTS
OF RIPARIAN OWNERS IN
MINNESOTA.

Brief for Riparian Owners

By Rome G. Brown.

PRELIMINARY STATEMENT.

H. F. No. 76, introduced by Mr. Spooner, is now before the House in the form of a redraft printed as H. F. No. 76, at page 445 of House Bills. The only substantial difference between the original bill and the redraft is that the latter is made to apply exclusively to public streams and waters. This change has no substantial effect upon the bill, for nearly all the water powers in Minnesota, both those developed and those undeveloped, are upon navigable or public streams. It is the object of this brief to show the nature of the legislation intended, and to demonstrate that it is an attempt unlawfully to confiscate the property rights of riparian owners, and further that, considered as a mere matter

of public policy, the measure is antagonistic to the industrial development of Minnesota.

A COMPARISON.

Suppose a bill were presented for an act by which it was provided that every owner of agricultural lands should keep a record of the amount of natural rainfall upon his land during the different periods of the year, and that some state commission should take those records and levy a toll, for the benefit of the state treasury, of from 10 cents to \$2 for each inch or specified fraction of an inch of rainfall upon such owner's land; and should further provide that the use of such owner's land, together with the benefit of the rainfall, should be subject to the control of such commission; and that if the natural advantages of the land and rainfall were not, in the judgment of the commission, fully or properly utilized by the land owner, that the commission could turn over such unused advantages to a stranger, or appropriate the same to the State; and that it further provided that the land owner should not have the right, after 1912, to the beneficial use of his land and of the natural rainfall that should come upon it, unless he should have filed with the commission a consent to submit to the provisions of the act in question; and suppose that it further provided that the commission should have the power to fix and regulate the rates at which the crops from such lands should be sold,—*Such a bill would be as defensible under the law, and as a measure of public policy, as Mr. Spooner's H. F. No. 76.*

Every argument that could be made in favor of H. F. 76,—whether upon points of law, or upon claims of public policy including the argument that the benefit (that is, flow of water) to the land upon which the burden is imposed comes to it in varying quantities by nature,—each and all of these arguments, and others, would apply as well to the supposed bill above referred to, as to H. F. No. 76.

WHAT H. F. NO. 76 PROVIDES.

H. F. No. 76 provides in brief, besides other things, as follows:

Section 1. That the ownership of the bed of a navigable stream is declared to be in the state, in trust for the use and benefit of the people of the state.

If this is intended as a statement of the general law in this state that the title is in the state in its sovereign capacity to protect the waters and streams for public uses,—meaning certain direct uses by the public of the water,—it is unobjectionable. Any extension, however, making the paramount rights of the state extend to anything further than actual use for navigation, public water supply, fishing, cutting ice, and similar actual uses, would be in derogation of the property rights of the riparian owner, all of which is shown by the decisions below.

Section 2. That the natural energy and beneficial use of the waters of navigable streams and meandered lakes belong to the state and are subject to state regulation, supervision and control for all purposes save those belonging to the federal government.

This is a declaration of confiscation. The law of property rights in this state has established in the riparian owner the property and interest which is here declared to be in the state, and such riparian owner's property rights are subject only to certain paramount uses which are above specified. This paramount right of the state does not include any interest or right of control in the natural energy or beneficial use of the waters of a navigable stream, nor any stream. This is shown by the decisions cited below; but this bill, solely on the theory so stated in Section 2, provides:

Section 3. Creates a water commission.

Section 4. Gives the commission jurisdiction over all the waters of the state.

Section 5 makes it the duty of the commission to inquire into the best method of preventing floods and promoting navigation.

Section 6. Directs how the commission shall be organized.

Sections 7 and 8 give the commission control of all matters connected with the extension of water supplies or sewage systems, whether municipal or private.

Section 9 defines "franchise" as every legislative act and every license by the commission, and "appropriator" as any company, individual, municipal or private, using public waters for other than domestic purposes (that is, for water power, wharfs, piers, etc.).

Section 10 requires the commission to keep a complete record of developed and undeveloped water powers.

Section 11 prohibits all individuals or corporations, municipal or private, now engaged or in the future to engage in using public waters for water power or any purpose, from using waters for such purposes either from existing sources of supply, or

from new sources, without obtaining from the commission a franchise therefor. Those who have already established their plants may have six (6) months within which to get such franchise.

Section 12. Such franchises may be granted for twenty (20) years, subject to two renewals of ten (10) years each.

Section 13. Every license or franchise heretofore granted for dam, wharf or pier into or across any navigable stream, is hereby repealed. Such repeal to take effect within twelve (12) months after the passage of this act. In place thereof, all franchises for maintenance or erection of dams, wharfs or piers shall be obtained from the commission under this act.

Section 14. Every appropriator (user of water power, owner or builder of a wharf, pier, etc.) shall apply for a franchise from the commission within a year.

Section 15. After examination by the commission, if the commission grants the application, then within six (6) months the riparian owner or "appropriator" shall file a written acceptance of the franchise granted, submitting in writing to the terms of such franchise, and to all the terms and provisions of this act, and also to the franchise value as fixed by the commission.

Section 16. Every user or appropriator of the beneficial use of the waters of any navigable stream shall pay to the state a franchise fee of from 10 cents to \$2 per horsepower per annum. The number of horse power which is the basis of the fee, is not merely that which is used by the owner, but it is "for each and every horsepower that is capable of being used" during the year in question.

Section 17. Provides that in computing horsepower per annum, the computation shall be made upon the basis of 10 hours use each day (Thus, one horsepower used 24 hours each day through the year, would compute at 2.4 horsepower per annum. The usual charge for horsepower is on the basis of 24 hours use a day).

Sections 18 to 23 provide for giving information to the commission, examination by the commission; prohibition (Sec. 20) of any individual, corporation, municipal or private, erecting any bridge, dam, wharf or abutment in or on a public stream, lake or reservoir, without obtaining franchise from the commission, renewals of franchises, and time limit within which construction is to be made, and provides (Section 23) that a discontinuance of use for one year may forfeit all rights.

Section 24. Gives the commission power to compel development of water power up to the quantities fixed by the commission at any one place.

Sections 25 and 26 give the commission inquisitorial powers to ascertain facts.

Section 27 provides for sufficient fishways in dams,—which is already covered by statute.

Section 28 provides for locks in dams on streams navigable for commercial boats and crafts,—which protection is already given by federal law.

Section 29 gives the management regulation and control as to the use and distribution of water power by any water power only to the state, with the power to fix and control the rates to be charged to consumers.

Section 30 makes not only this act, but all franchises and licenses granted thereunder subject to future legislation.

Sections 31 to 36 provide as to enforcement of fees and give the commission power of examination, fixing the place and manner of appeals, etc.

Sections 37-40 fix the fees for filing papers, statements and reports of the commission, and appropriates \$25,000 annually for the support of the commission and its work.

As we have stated, the above measure is contrary to law because it attempts to confiscate individual property rights, and further it is contrary to public policy.

THE QUESTIONS OF LAW.

This bill is based upon the following false theories:

(1) That the riparian owner's right to the beneficial use of the waters of a navigable stream, and his right to develop natural water power on his land and use the same, is subject to the right of the state at any time to step in and participate in the advantages, either as to income or use, of such water power. This theory is false because the riparian owner's right to develop and use the water power appurtenant to his land has been held to be an absolute property right, and subject to no other right in the state, except the paramount right of the state to control the beds and waters of a navigable stream for certain specified public uses, such as navigation, diversion for public water supply, fishing and cutting ice.

(2) That because the quantity of flow and the place of flow are fixed by nature,—that is, because it is a natural resource,—the advantage of the use of such natural resources by the riparian owner is not a property right which cannot be taken away or diminished by the state. This theory is false because the natural advantages and elements of value which are appurtenant to the riparian land, and the use of the same, including water power, are just as much property rights, and as such are part and parcel of the riparian land, as any element of value belonging to any piece of land which may be peculiar to it on account of its situation. Neither

the state nor the riparian owner can own the waters themselves; but the riparian owner does own, as a part of his riparian tract, the right to all the natural energy and beneficial use of the waters as they pass by or over his riparian land. The beneficial use of the water power, whether developed or undeveloped, is a part of his real estate and can no more be taken away or diminished by legislative enactment, than could be taken away any other personal or property right.

This law of the riparian owner's property right has been long settled by the decisions in Minnesota.

Many years ago the English government established a "Thames Conservancy Act," giving to a certain commission the power to control water power, and other uses of the Thames.

Under that act, the commission (Conservators) attempted to assert a right of control over the beneficial use by the riparian owner of his riparian rights,—which the House of Lords held could not be done, and Lord Selbourne held:

"The rights of a riparian proprietor, so far as they relate to any natural stream, exist *jure naturae*, because his land has by nature the advantage of being washed by the stream."

Lyon v. Fishmongers Co., 1 L. R. A. App. Cas., 662.

In 1876 the Minnesota Supreme Court held that, with regard to a riparian owner's rights in a navigable stream, and to occupy the bed of the stream by structures in order to obtain advantage of the beneficial use of the waters in the bed of the stream

to which he was entitled as riparian owner, such rights are:

"Subordinate and subject only to the navigable rights of the public and such needful rules and regulations for their protection as may be prescribed by competent legislative authority. *The rights which thus belong to him, as riparian owner of the abutting premises, are valuable property rights of which he cannot be divested without consent, except by due process of law, and, if for public purposes, upon just compensation.*"

Brisbine v. R. R. Co., 23 Minn. 114.

The *Lyon* case is among those cited by Judge Gilfillan in 1879, when he held with reference to water powers upon the Mississippi river:

"As it seems to us, none of these opinions state the right too strongly. If the right exists *jure naturae*, because the land has, by nature, the advantage of being washed by the stream, it is impossible to see how any such distinction as defendant claims can be made as to the peculiar uses which the riparian owner may make of the waters. The limit to the private right is imposed by the public right, *and the private right exists up to the point beyond which it would be inconsistent with the public right.*

"We think the right in the riparian owner to put the water to any useful purpose may be sustained by considerations of public policy. It is certainly for the interests of the public that where the waters of a navigable stream may, without interfering with the public right, be put to some useful purpose, the right to so use them should exist.

"We will state the rule at which we have arrived nearly in the language of the court in *People v. Tibbetts*, 19 N. Y. 523: The riparian owner may undoubtedly use, for any purpose, the water of a navigable stream passing or adjoining his land, for his own advantage, so long as he does not impede the navigation, in the absence of any counter claim

by the state or United States as absolute proprietor."

Morrill v. St. Anthony Falls W. P. Co., 26 Minn., 222, 228.

In the same year an attempt was made at Minneapolis to assess developed water powers as personal property. In a decision holding that they were part of the real estate, the Supreme Court of Minnesota said:

"In the recently decided case of *Morrill v. St. Anthony Falls Water Power Co.*, ante, p. 222, we had occasion to consider the question of the rights of riparian proprietors upon the Mississippi river. The general rule arrived at was that a riparian owner may use the waters of a navigable stream adjoining his land, for any purpose, for his own advantage, so long as he does not impede navigation, and in the absence of any counter-claim by the state or the United States. As the riparian owner has this right to the use of the water, he had a right to enjoy it and make it available; otherwise, his right would be a worthless abstraction. He may, therefore, subject to the limitations of the general rule before stated, use the bed of the stream, if necessary or convenient to the enjoyment of his right to the use of the water. He may erect dams there, and such other structures as will promote and facilitate the enjoyment of this right. For these purposes the riparian proprietor may properly be said to have, if not an interest, certainly a right, in the bed of the stream itself. *The right of a riparian proprietor upon a navigable stream, such as the Mississippi, rests, as is held by this court, in the case above cited, upon the fact of riparian ownership; that is to say, the riparian proprietor possesses this right because he owns the land upon the bank; and this is equivalent to saying that the right is attached as an incident to the riparian land, and belongs and appertains to the same. * * ** The defendant is the owner of the bank, and of the right to the use of the water, and, therefore, of the right to make his right

to the use of the water available by using the bed of the stream. In the defendant's hands the riparian land, and the right to the use of the water, and to the use of the bed of the stream, are held together. The principal, which is the riparian land, draws to it the incident, which is the right to the use of the water, so that the latter is part and parcel of the former."

State v. Minneapolis Mill Co., 26 Minn., 229, 231.

Riparian land is now assessed upon the basis of two values: (1) The value of the land as such and (2) the value of the water power, developed or undeveloped, which is appurtenant thereto, so that water powers now can be and are taxed.

In the *Morrill* case above quoted from, it was held that "the limit to the private right is imposed by the public right"; and later the Minnesota courts fixed the nature and limits of the public right. In 1892 the Court held:

"It has been decided over and over again by this court that the right of the riparian owner to improve, reclaim and occupy the submerged land in front of his shore estate to the point of navigability is a vested property right, which cannot be taken away, even by the State for a public use, without compensation. *Brisbine v. St. Paul & Sioux City R. R. Co.*, 23 Minn. 114; *Union Depot, etc., Co. v. Brunswick*, 31 Minn. 297 (17 N. W. Rep. 626); *Hanford v. St. Paul & Duluth R. R. Co.*, *supra*. The old common law doctrine, or at least what has been generally assumed to be such, and which was adopted in some of the early American colonies, that the crown has a *jus privatum* or right of private property, in navigable waters and their shores, which it could alienate to a subject, has no place in the jurisprudence of this State. It is the settled law with us that the rights of the State in navigable waters and their beds are sovereign, and not proprietary, and are held in trust for the public as

a highway, and are incapable of alienation. *Union Depot, etc., Co. v. Brunswick, supra*; *Hanford v. St. Paul & Duluth R. R. Co., supra*."

Bradshaw v. Duluth Imperial Mill Co., 52 Minn. 59.

Cited and approved in *Gilbert v. Emerson*, 55 Minn. 259.

Thus it is determined that the state has no proprietary interest either in the waters or the bed or in the use of the same. It is simply a sovereign interest to protect the waters and bed for certain public uses which are paramount to the rights of the riparian owner.

These public uses are clearly defined, and do not to any degree include the right of the state, in any capacity, to appropriate to itself any right, interest, income or control of water powers appurtenant to private property, either developed or undeveloped, so far as such attempt at appropriation is made for the purpose of giving to the state any benefits in the natural energy or beneficial use of such water powers. Every decision in Minnesota on this point is repugnant to the declaration of Section 2 of H. F. No. 76, upon the basis of which declaration the entire bill is drawn.

Judge Gilfillan held that the most important public use for the protection of which the state had a right of control, was that of navigation.

In 1893, in discussing the paramount public uses, Judge Mitchell held that in Minnesota, a proper division of streams, instead of dividing them into navigable and non-navigable, should be a division in to public and private waters, and that the

public uses which might be protected by the control of the state should include not only navigation, but also fishing, bathing, and diversion of water for public supply, and cutting ice.

Lamprey v. State, 52 Minn. 181, 200.

Next to navigation, the most important public use which is paramount in this state, is that of diversion by cities for public water supply.

Mill Co. v. St. Paul Water Works, 52 Minn., 485.

Therefore, subject only to the control by the state for these specified public uses, navigation, water supply, fishing, etc., the right of the riparian owner is absolute, to all the natural energy and beneficial use of the waters as they pass over or by his land. The fact that he owns the fee only to low water mark does not affect these riparian rights which are his property rights.

"In this state it is the settled doctrine that the riparian owner has the fee to low water mark. *Schurmeier v. St. Paul & Pacific R. Co.*, 10 Minn. 59 (82); *Brisbine v. St. Paul & Sioux City R. Co.*, 23 Minn. 114. But while he only has the fee to low water-mark, he has certain riparian rights incident to the ownership of real estate bordering upon a navigable stream. Among these are the right to enjoy free communication between his abutting premises and the navigable channel of the river, to build and maintain suitable landings, piers, and wharves, on and in front of his land, and to extend the same therefrom into the river to the point of navigability, even beyond low water mark, and to this extent exclusively to occupy for such and like purposes the bed of the stream, *subordinate only to the paramount public right of navigation*. *Dutton v. Strong*, 1 Black 22; *Railroad Co. v. Schurmeier*, 7 Wall. 272; *Yates v. Milwaukee*, 10 Wall.

497; *supra*; *Rippe v. Chicago D. & M. R. Co.*, 23 Minn. 18; *Brisbine v. St. Paul & Sioux R. Co.*, *supra*. These riparian rights are property, and cannot be taken away without paying just compensation therefor. The state could not do it or authorize anyone else to do it. *Yates v. Milwaukee*, *supra*; *Lyon v. Fishmongers Co.*, L. R. 1 App. Cas., 662; *Brisbine v. St. Paul & Sioux City R. Co.*, *supra*."

Union Depot Co. v. Brunswick, 31 Minn. 297.

H. F. 76 applies to wharfs, piers, etc., as well as to dams (Sec. 14).

This law of property right was again asserted in 1890:

"In this state the title of the proprietor of lands abutting upon navigable waters extends to low water mark; the bed of the stream or body of water, below water-mark, being held by the state, not in the sense of ordinary absolute proprietorship, but in its sovereign government capacity, for common public use. *Union Depot, etc., Co. v. Brunswick*, 31 Minn. 297 (17 N. W. Rep. 626), and cases cited. the estate of interest of the riparian owner in the bed of the stream above low water mark is subject to the right of the public to use the same for the purposes of navigation; but restricted only by that paramount public right, the riparian owner enjoys valuable proprietary privileges, among which we shall consider particularly the right to the use of the land itself for private purposes. A considerable extent of the shores, not only along tide-waters of the ocean coasts, but on our great inland waters, are of such a nature, out to and even beyond low-water mark, as to be in general unavailable by the public for the purposes of navigation, and must remain forever waste and useless lands, unless reclaimed by artificial means from the shallow water covering them, or unless otherwise improved. It is established beyond question in this state, and in other states as well, that the proprietor of the riparian lands may make such improvement. Subject only to the limitation that

*he shall not interfere with the public right of navigation, he has the unquestionable and exclusive right to construct and maintain suitable landings, piers and wharves into the water and up to the point of navigability for his own private use and benefit. * * * As the right of private use and enjoyment of the improved or reclaimed premises will continue so long, at least, as it does not interfere with the limited and defined public interests, it is obvious that in general, it may continue forever.*

This private right of use and enjoyment is not, we think, limited to purposes connected with the actual use of the navigable water, but may extend to any purpose not inconsistent with the public right.
* * *

*This right of the riparian proprietor, even before it has been in any manner exercised by reclaiming or improving the premises, the right itself to reclaim, improve, or occupy, is a property right, vested in him, recognized and protected in the law as property. He can not be deprived of it without due process of law. It cannot be taken from him, and devoted to public use, without compensation. * * **

These peculiar property rights of the riparian owner constitute, estimated in connection with the riparian land, the chief value of the premises. It may even be that the whole value of such real property consists in the right to improve and occupy the submerged lands for private purposes. The extent of the riparian right in this respect is not measured by the value of the upland, nor by the distance to which the owners' estate may extend inland from the shore. The barest strip of upland, though wholly valueless and useless in itself, justifies the owner in the exercise and enjoyment of the privilege of riparian proprietorship to the fullest extent."
* * *

We have thus considered that the riparian proprietor has the exclusive right—absolute as respects every one but the state, and limited only by the public interests of the state, for purposes connected with navigation—to improve, reclaim, and occupy the submerged land, out to the point of navigability, for any private purpose as he might

do if it were his separate estate; that this right, even though it may never have been exercised, is recognizezd and protected by the law as property, of which he cannot be deprived even by the state without just compensation."

Hanford et al v. St. Paul & Duluth R. R. Co.,
43 Minn., 104.

It may be asserted that the U. S. Supreme Court has held that the relative rights of the state and the riparian owner in the beds of navigable streams are fixed by the law of the state in question, and that therefore in Minnesota the Legislature has the authority to establish any relation between the state and the riparian owner, by legislative enactment.

Such a claim is without foundation. It is established as a general principle that the questions as to whether the riparian owner holds a fee to the middle of the stream or to low water mark, or whether this state has retained an interest in the bed, and, if so, to what extent, are largely questions of local law.

Barney v. Keokuk, 94 U. S. 324;

Packer v. Bird, 137 U. S. 661;

Hardin v. Jordan, 140 U. S. 371.

However, the fixing of the law of property rights by the state, is not based upon legislation, but such rights are fixed by the decisions of the highest court of the state as to what those rights are. The rule of property rights which prevails in the state in question is that which is established by the general trend of all the previous decisions upon these questions. When so established, such rule of property cannot

be changed or modified by any legislative enactment, state or federal.

Kaukana Co. v. Greenbay Co., 142 U. S. 254.

Fall Brook Irrigation District v. Bradley, 164 U. S. 168.

We have confined our citations to a few of the leading cases. The entire body of Minnesota law upon these questions establishes the right to the natural energy and beneficial use of the waters of a stream in the riparian owner,—that is, this right is appurtenant to and part of the real estate which is the riparian tract. It is subject to no control by the state nor any interest by the state, which goes to a participation by the state, in the advantages of the natural energy and beneficial use of the waters belonging to the riparian owner. The right of control of the state does not go to the right to levy toll upon the riparian owner, whether it be measured by so much per horsepower, or otherwise. The right of control by the state does not go to the dictation to the riparian owner as to when or how much water power he shall use, nor to what extent he shall develop it. It does not go to any of the provisions of H. F. No. 76, except as to fishways and locks, and dams for navigation. Fishways and locks and navigation dams are already provided for, not only by state but by federal laws.

ANOTHER ABSURDITY.

This bill is also based on the assumption that riparian owners, on streams like the Mississippi, St. Louis, Red Lake and other public streams, who have developed water powers, have made such developments under "franchises" or licenses from the state, or some municipal department of the state; and that therefore the state may, by withdrawing such licenses or franchises, place the riparian owner in a position where he will be compelled to submit to the provisions of this bill, including the provision for the obtaining of a license from the commission.

This is another of the unfounded assumptions which make up the basis of this bill. *There is not a single water power development in this state on any of these rivers where the right to make and utilize the developed water power is derived, directly or indirectly, from any franchise or license from the state.* So far as the state is concerned, the right to develop and to utilize the water power on these streams belongs to the riparian owner as a property right appurtenant to his riparian land, as shown by the above decisions. Where special charters had been granted, such as to the Minneapolis Water Power Companies, those charters have no effect further than have the articles of incorporation of a company organized under the general corporation laws. It has been held that these special charters have the effect merely to define the corporate powers of the companies, and that they were

not intended, nor were they necessary, to give to the companies, who are riparian owners, the right to develop and utilize their water power; because that right belonged to them as riparian owners.

Morrill v. St. Anthony Falls W. P. Co., 26 Minn. 222, 225.

The pretended repeal, in H. F. No. 76, of all franchises and licenses under which water power has been developed on these Minnesota streams, is therefore an absurdity in itself. The very passage of such a provision by the Legislature, would put that body in a most ridiculous light. On this point, as well as upon other points, the author of this bill is either totally ignorant of the elementary rules of riparian property rights, or he is recklessly ignoring the rules of law which have been firmly established in this state.

Concluding upon the legal questions, this bill is nothing more nor less than a bill attempting to confiscate to the state not only control of water powers, but an interest in the ownership and revenue from the same. It takes certain private property rights which have been by the law of the state established as belonging to riparian owners; and declares that all these water power rights "belong to this state in trust for the use and benefit of all the people of this state." The above decisions show that this declaration covers the very property rights which our courts have held to belong exclusively to the riparian owner, and which our courts have said are not subject to any such control or power of the state as is here attempted to be asserted.

CONSERVATION VS. CONFISCATION.

This bill is another instance where the movement for conservation has broken over the proper limits and has become a movement for confiscation. No reasonable man could dispute that upon the lands which are owned by the state and have not yet been disposed of to private owners, the state should provide that, in the disposition of these lands, a reservation should be made to the state, giving it an interest in the water power or other natural resources. So in the case of the federal government, where United States lands are still held by the government and have not been already deeded away to private ownership,—it is good policy (that is, it is a proper conservation policy) to provide that, when such lands are deeded, the government shall reserve some beneficial interest in the natural resources of these lands,—whether such resources be water power or minerals.

But this bill applies to lands which have passed to private ownership and which were so passed without any reservation by the state or the government, which was the original grantor. They, therefore, are held by the owner, with all the elements of ownership which go with a complete fee title. These elements, as shown by the Minnesota decisions above, include the usufruct, the right to use, the waters as they pass over the riparian land. They include the right to all “the natural energy and the beneficial use of the waters” (that is, to the water power) subject to no right on the part of the

state to appropriate to itself a part of such property, or any beneficial interest or income from the use of such property.

The bill is unconstitutional, as an attempt to take private property for a pretended public use without compensation.

THE QUESTIONS OF POLICY.

Open as this H. F. 76 is to legal and constitutional objections, it is even more obnoxious on the ground of public policy.

1. IT WILL RETARD, AND IN MANY INSTANCES PREVENT, WATER POWER DEVELOPMENTS:

The present water power development in Minnesota does not comprise half the available water powers in this state. Beside numerous undeveloped water powers upon the smaller rivers, there are many powers on the larger rivers which have been surveyed and many of them recently purchased preparatory to immediate development. These include several sites upon the Mississippi river above Minneapolis, where it is proposed to develop power for paper pulp and paper mills, and also manufacturing industries and public service corporations. The same is true upon the Red Lake River, where plans have recently been made for the immediate development of several water powers. The same is true upon the St. Louis river where the former Cooke water power, which was held undeveloped for such a

long period, has recently been partially developed and plans are made for a further development not only for general purposes, but for supplying the proposed new steel plant and other industries at Duluth with power and light.

In order to develop these powers, a very large amount of capital is required, a million dollars or more at many of these plants. This capital in the form of purchase of stock or in loans secured by bonds, must come largely from outside of the state. The delay in development heretofore has been because general and local conditions had not been favorable to such a further extension of such enterprise. However, Minnesota was about entering a new era in industrial development. Paper mills have been successful here and others are projected. For such purposes, immense power is requisite and water power is peculiarly adapted to the paper mill industry. The extension of the use of electrical power and light by public service corporations has encouraged capital to invest in water powers with plans for immediate development. This is true on the Mississippi River above Minneapolis. It is true on the Red Lake River and on the St. Louis River and others.

But it is significant that such immense water powers have remained undeveloped under legislation which has not attempted to harrass the riparian owner nor to diminish his income or right of control. The enactment of such a bill as H. F. 76 will raise an obstacle to the developments now planned which will retard and perhaps preven

them altogether. No capitalist will invest in stock or bonds of a corporation to engage in the hazardous and expensive development of water powers while there is upon the statute books of the state an act like H. F. 76. It is not sufficient answer to these considerations of policy to say that, if the water power owners are so sure of the unconstitutionality of this act, they can proceed immediately to contest the act and have it declared invalid. Such litigation would require, in order to have the question settled by the highest courts of law, from five to ten years. Until the act was declared invalid, no considerable capital could be obtained for new development.

2. IT WILL RETARD THE PRESENT AND PROSPECTIVE DEVELOPMENT NOT ONLY OF GENERAL INDUSTRIES IN THIS STATE, BUT WILL INJURE THE AGRICULTURAL INTERESTS AS WELL:

With every local industrial development that is made by a new development of water powers, there goes on at the same time an increase in general industrial development not only of the locality in which the power is situated, but throughout the state. The proposed establishment of a steel plant at Duluth does not mean simply that some large corporation is going to make rails, or some particular iron product. There necessarily arises with such development a growth in the manufacture of other products in which iron is used. The establishment of a new water power plant by which elec-

trical energy for power is furnished in any locality gives an impetus to manufacturing industries of all kinds whether it be a large flour mill or small manufacturing enterprises. Up to a recent date of the entire amount of wood grown in Minnesota and used for the manufacture of pulp for paper, only about one-fifth was being manufactured into wood pulp in this state. The other four-fifths was shipped out of the state. The development of water power in the state means an increased use by manufacturies situated in this state of raw material produced in this state. The establishment of every manufacturing industry means an increased demand upon the agricultural interests for raw material and supplies. The postponement or prevention of water power development, therefore, means an injury to the merchant, the farmer and to every business interest.

3. THE EXPENSE OF WATER POWER DEVELOPMENTS.

It is too often assumed that the water power owner has an extremely large advantage in the cost of power over others differently situated, and that therefore he should yield up to the state for the benefit of the public some of this advantage. As a matter of law, we have already shown that there is no basis for placing the water power owner under tribute on account of any advantage he may have by reason of the situation of his lands next to a flowing stream; and that the exacting of a tribute from him is wrong upon principles of law. It is

wrong also as a matter of policy. The idea seems to be prevalent that the development of the water power is merely a process of getting something of value from nature without paying for it and that the water power owner receives his power at little or no expense, when his industry is compared with another which is supplied exclusively by steam power.

Nothing could be more erroneous, and especially as applied to Minnesota. Here the larger water powers, both developed and undeveloped, are in the northern portion of the state, where, by reason of climatic conditions, the stage of water in the rivers varies from 1 to 60—that is taking the extreme low as 1, the variations during the different years and different parts of the same year would vary as 1 to 60. More than that, in this part of Minnesota, the average annual rainfall is only about two-thirds of what it is in the more southerly and easterly states, where the small water powers are more extensively developed. Again, the variation in the quantity of annual rainfall in this part of the state is as 1 to 3. In 1910 it was about 11 inches. In other years it has been 30 to 35 inches, with approximately 30 inches the normal. At any water power development the industries which are run by the power must have constant power throughout the year, throughout the month and throughout the day, and in many cases, throughout a day of 24 hours. It is absolutely necessary, in order to avoid stoppage by reason of low stage of water, or by casualty, to have installed in

connection with every water power plant a steam plant of capacity equal to that of the water power at the ordinary stage of water. This makes the necessary water power development extremely expensive. Moreover, the old crib dam is out of date. Water power improvement is now made by dams, structures and machinery of the latest and most improved type and the expense of such development per horse power developed has greatly increased within recent years. On the other hand, the expense of steam power has been constantly decreasing through the improvements in steam power appliances as well as by improved methods of fuel economy.

Water power development has been growing more expensive as the necessary up-to-date methods of construction and use of supplemental power are necessarily followed. At the same time the cost of steam power has been diminishing. The difference in the cost per horse power per year in favor of the water power owner has been decreasing and his advantage is continuously growing less.

It goes without saying that any attempt to harass or burden the water power owner will immediately show results in the further hesitation, delay and prevention of water power development and the industrial developments that go with it.

4. NEITHER IS IT GOOD POLICY TO ATTACK WATER
POWERS ALREADY DEVELOPED :

In many of the water powers already developed, contracts, perpetual or for a long term of years, have been made for the furnishing of water power, and investments have been made and business established upon the strength of the law of property rights as the same has heretofore existed. This attempt to diminish those property rights, whether it be by directly taking some of them or indirectly by levying a toll, would show a disposition upon the part of the state legislature to disregard property rights. While the water power owner will be presumed to be able to protect himself in the courts from any infringement or deprivation of property rights, it does not add to, but greatly detracts from, the good name of Minnesota to have the state put in position of attempting to assert its right of control and practical ownership of property rights which belong to the riparian owners.

This particular piece of legislation is bad and not only that, but the spirit of this legislation is bad. Its passage would reflect upon Minnesota. It would establish the fact that the Minnesota Legislature has attempted, at least, by legislation to confiscate, under the pretense of conservation, the property rights or some of them, of the riparian owners of this state.

Respectfully submitted,

ROME G. BROWN.

Minneapolis, Minn., March 20, 1911.

**LIMITATIONS OF FEDERAL CONTROL
OF WATER POWERS**

AN ARGUMENT

Before

THE NATIONAL WATERWAYS COMMISSION

By ROME G. BROWN

Minneapolis, Minn.

NOVEMBER 28, 1911

Revised, March 1, 1912.

MILLROY & EMMET, 22 THAMES STREET, N. Y.

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LIMITATIONS OF FEDERAL CONTROL OF WATER POWERS

AN ARGUMENT

before

THE NATIONAL WATERWAYS COMMISSION

By Rome G. Brown

Minneapolis, Minn.

In pursuance of its duties imposed by the Congress to "investigate questions pertaining to water transportation and the improvement of waterways, and to recommend to Congress such action as it may deem best on these subjects", your Honorable Commission has before it for consideration at the present time, as I understand it, that phase of the subject which pertains to powers of the Congress to make and enforce regulations and restrictions upon the development, by private riparian owners, of water powers existing in the navigable streams of the United States which are appurtenant to private riparian land on such streams. It is, presumably, the desire and object of this Commission to make only recommendations for such legislation as shall be consistent with the constitutional powers of the Congress and with the constitutional and legal rights of the private riparian owners. I assume also that this Commission will not necessarily extend its recommendations for legisla-

tion to the very limits which it may conclude as those define the power of legislative action and enforcement, but that it weigh and act upon considerations of expediency and policy.

Your recommendations upon this phase of the subject, then, must be based upon a careful consideration of two things: the constitutional and legal limitations of the powers of Congress, within which limitations, whatever they may be, must be measured any and all recommendations for legislative action; no matter that, independent of legal limitations, other legislation might seem to be for the advantage of the public; and the question whether it is wise and expedient for Federal legislation to be extended, even to the limits of the constitutional powers of the Congress.

It is the consideration of these two questions to which I respectfully ask your attention. They are important to the public interests, as represented by the Federal Government and by the State Governments; they are important also to riparian owners whose beneficial use of the water powers appurtenant to their lands is a private, vested property right, subject only to whatever paramount right the Federal Government or the State Governments, or both, may have in the waters and beds of such streams.

My interest in the matter is not solely professional, although I represent here the interests of various private riparian owners in Minnesota and other Western States, and also in New York and other Eastern States. I have also a personal interest, financial, but as a student who has studied and written somewhat upon subjects pertaining to Water Rights, and whose object it is to have this matter considered from a legal and scientific point, rather than from one which is partial and one-sided.

There has been too much of the partial and one-sided discussion of this and allied phases of the subject of Water Rights, not only before the Courts, but before National and State Legislatures, before public commissions, and before the public in general. The partisan disputant for the public right ignores the private right; the partisan advocate of the riparian owner disregards the public right. From this clashing of ill-considered

views, has arisen the seeming conflict in the early adjudications by the Courts in this country as to the respective rights of the governments, Federal and State, and of the private water-power owners. From the same cause have arisen the differences and inconsistencies of legislative policy from time to time, as evidenced by the varying enactments of the Congress and the State Legislatures.

Another source of confusion in this country has been the necessity of applying the common law of England, where navigation, whether salt or fresh water, is coincident with the ebb and flow of the tide, to the large inland fresh water highways of this country. These and other sources of misunderstanding have, however, been largely eliminated by the more careful and scientific consideration of these questions presented in recent years to American Courts; and the former conflict of views, which was the source of confusion, has been replaced by harmonious adjudications, so that the law on this phase of the subject of Water Rights has, as I believe, become settled, and has emerged in definite and reasonable form, without inconsistency and without confusion.

If I shall help this Commission to a better appreciation of the rules of law upon this subject which have evolved in this country during the past century or more, and which are, as I believe, now established in comparatively concrete form, I shall have accomplished the object of my discussion.

Scope of this Argument.

This question of the relation between public and private rights, with regard to water powers, is now pressing with unusual urgency. It is true that throughout this country there is scarcely any single subject which is so much in agitation, especially in the Legislatures of the States and the Nation.

In the great streams of this country, while water-power development has been very extensive, there have lain and still lie immense potential energies never yet developed, because of former lack of facilities for transmission and transportation.

Expense of development had to be confined to industries located directly at the water power. But the rapid growth of the country and the resulting increased demand for industrial development and particularly the advance in the science of the development and distribution of electrical energy, have made feasible the development and operation of water powers, where before it was not practicable. The demand for development extended suddenly not only to private water powers, but to those appurtenant to lands held by the United States or the State Government which had not yet been passed to private ownership.

Among those subjects, concerning which the Government should apply a policy of conservation, are included water powers appurtenant to public lands. When consistently applied, such a conservation policy is legal and expedient. Where the Government owns riparian land, it owns also all of the riparian rights appurtenant to that land; it has both the sovereign and the proprietary title. In passing such riparian land to private ownership, by patent or otherwise, it may legally and properly determine for itself its policy, and declare that policy by legislative enactment, as to whether it will grant the ordinary qualified fee, or whether, by the grant itself, or by statutes the terms of which shall be part of the grant, it shall reserve to itself as grantor, some interest of ownership or control, which, without such reservation, would pass to the grantee. Its power to do this is just as great as, and is no different from, that of a grantor in determining what shall be the extent and terms of a grant in any deed which he passes to a purchaser of any tract of land, riparian or otherwise. As to such Government riparian lands, it is within the discretion of the Congress to determine its policy and within its power to enact and enforce statutes declaring such policy. It saves or reserves to itself something of that which it has, instead of passing the entire property to private ownership. It thereby acts within the limits of what is in fact a policy of "conservation", and of that which only can properly be so termed.

But the question is entirely different where it arises be-

the Government on the one hand, and, on the other, the private owner of riparian land, who, with his predecessors, has long held the riparian land under unqualified grants or patents, by which the entire proprietary fee, with all the appurtenances belonging to that fee, has passed to private ownership. In the modern hue and cry about "natural resources", and the conservation thereof, this distinction is too often lost sight of. There is no right of title or right of interest belonging to the public, in *every* natural resource, arising because of the mere fact that it is a natural resource. The ownership, at least the right and the privilege of beneficial use, of a natural resource, whatever it may be, which is appurtenant to a tract of land, whether it be riparian or otherwise, belongs, where the land is held by private ownership, to the owner. Such ownership or right of use adds value to the land, and always is taken into consideration as an element of its value. It is the difference in such natural resources which makes, largely, the difference in the values of various tracts. The difference in value by reason of location or contour arises from just such differences of natural resources. Such is the difference between the high land and the low land; the difference between land with a soil of alkali sand, and land with a soil of fertile loam; between land in localities of great precipitation of rainfall, and that in localities of small precipitation; between land in proximity to, and that at a distance from, the natural or artificially made urban centres; or the difference in proximity to natural features, which, either alone or in connection with the land in question, may be used for scenic beauty or for industrial development. Such, and other natural resources, and the advantage and value of their beneficial use and enjoyment, are an essential part of the land, and as such, belong to the owner of the land.

Such a natural resource is a water power. In its unutilized state, it consists of two factors, both of which are a part of and appurtenant to the riparian land, (1) the natural flow of water over or past the land in question of sufficient quantity and constancy to make its use feasible in connection with the second

factor, (2) a natural slope, or head and fall, of the land itself or of the bed of the stream adjacent to the land, sufficient in extent, so that, in connection with the first factor, quantity of water, it may, under all the circumstances, involve a feasible development for power purposes. These two factors, which make up a possible water power development, are each natural features, natural resources, but they are features peculiar to the land upon or appurtenant to which they exist, and as such together with their beneficial use, belong to that land, and therefore to the owner thereof, whether before or after actual development or utilization by mechanical or artificial means. The advantage, value and financial benefits of water powers naturally appurtenant to riparian land belong to the riparian owner, as I shall demonstrate. There is no more basis in law or in reason for attempting to deprive him of such privilege, or the beneficial use thereof, when once he has acquired his riparian land by a qualified fee, by imposing restrictions upon him, or by appropriating to the Government, for the public benefit, a part of the proceeds derived from such beneficial use by the riparian owner—on the ground that it arises from a “natural resource,”—than there would be to impose restrictions, and to levy, in behalf of the general public, upon a private owner of agricultural land a tribute graduated according to the amount of rainfall his farm might receive, or based upon the percentage of fertility per acre, and to attempt to justify such a restriction or tribute, in addition to taxes based upon fair assessment values, upon the fact that his advantages result from “natural resources.” Conservation is the reserving of that which one has,—is legal and proper; but attempted appropriation of any beneficial use, or the profit or advantage thereof, from another, which has passed to the latter in private ownership, is not conservation; it is confiscation.

Let it be understood, therefore, that what I say refers to riparian lands held in private ownership, and has nothing to do with the policy of conservation, in the proper sense of that word.

There is another part of a possible scope in this discussion which I wish to eliminate, failure to recognize which distinguishes

has been and still is the source of much confusion of this subject. When I speak of a "riparian owner", I shall refer only to riparian land situated in those States in this country which have retained, as part of their law of property, the common law of riparian rights. I shall not refer to land in those far Western States where the law of riparian rights has been repudiated, and where the well defined law of "appropriation" prevails. In these latter States it has been established as a rule of property, governing riparian land, that mere priority of occupation or appropriation gives rights superior to those of the riparian owner in the beneficial use of the waters and the beds of streams, whether such appropriation is made upon, or adjacent to, riparian lands owned by the Government, or those passed to private owners. Not all riparian rights, as such are defined in the common law, are lost by such appropriation; but, generally speaking, the riparian right law does not prevail in those jurisdictions. The custom of appropriation evolved into the law of property in those States, and as such has been confirmed by the Congress and the Federal Supreme Court as applicable to lands there situated, the rule of law having been established by the local jurisdictions, and having become the common law of those States through adjudications of their own Courts.

Act of Congress of July 26, 1866, Ch. 262, U. S. Comp. St., 1901, p. 1437.

Lux v. Haggin, 69 Calif. 255.

Meng v. Coffey (Neb.), 93 N. W. 713.

Simmons v. Winters, 21 Ore., 35.

Isaacs v. Barber, 10 Wash., 124.

Land & Canal Co. v. Ditch Co., 18 Colo. 1.

Farm I. Co. v. Carpenter, 9 Wyo., 110.

Willetding v. Green, 4 Idaho, 773.

Smith v. Denniff, 24 Mont., 20.

Boquillas Land & Cattle Co. v. J. N. Curtis, et al, 213 U. S. 339.

See also *Farnham* on "Waters."

This very distinction has been overlooked by many who have assumed to limit the private riparian right in jurisdictions re-

taining the riparian common law, on the basis of decisions non-riparian right States. At the very outset, however, should be noted that the Federal statutes and decisions recognizing this distinction are founded upon the rule, hereafter further discussed, that the extent and limit of the proprietary rights of the riparian owner are determined by the local laws of each State as shown by the decisions of the highest Courts of such State for the reason that, subject to the sovereign control by the Federal Government for a specified purpose only, the sovereign and proprietary rights in the control and beneficial use of the waters and beds of navigable streams have passed out of Federal control to the States or to private owners, or to both.

Speaking, then, only of the relations between the Federal Government and private owners, holding lands in jurisdiction where the common law of riparian rights prevails, let us determine what is the dividing line between the legal proprietary rights of the riparian and the constitutional right of control by Federal authority.

I.

THE POWER AND AUTHORITY OF THE FEDERAL GOVERNMENT ARE EXPRESSLY LIMITED TO A SOVEREIGN POWER OF REGULATION FOR THE SPECIFIC PURPOSE OF NAVIGATION. ALL OTHER INTERESTS, POWER AND AUTHORITY, BOTH SOVEREIGN AND PROPRIETARY, BELONG TO THE STATES OR TO INDIVIDUALS.

Obviously the rights to the waters and the beds of navigable streams and to their usufruct are of two classes: (1) those which include all proprietary interests and all elements of proprietary interest; and (2) those which exclude proprietary rights and include all rights belonging to the Government, Federal or State, by virtue of its sovereignty. The distinction is that

tween private and public right—the distinction of *jus privatum* and *jus publicum*.

It is manifest that the right of the individual riparian owner cannot include any right included in the second class; while, considered as a possibility independent of existing law, the sovereign power might possess not only the sovereign right of control for public use, but also a proprietary interest.

There are also, manifestly, three possible holders of these rights: (1) the Federal Government; (2) the State Governments, and (3) the private Riparian owner.

While a consideration of the relations between State and private control, as established by law, will further confirm and illustrate the limitations of Federal control, let us first examine what are the limitations between one branch, Federal control, on the one side, and the other two branches, State and private control, upon the other.

The decisions next cited below demonstrate certain propositions which are fundamental, but the adjudications as to all three of which are so interwoven, that we state the propositions and at the same time cite the authorities thereto. These propositions are:

1. That the authority for Federal control of fresh navigable streams and waters in the United States, which at the same time defines and limits such control, arises solely from that power which has been expressly reserved to the United States by the Federal Constitution—the power to regulate commerce between the several States and foreign nations.

2. That this power of control was expressly reserved to the Federal Government by the States originally adopting the Federal Constitution, and by all States since admitted under that Constitution; and, subject to this specific power so reserved in the Federal Government, there has passed over to those States, upon their entry into the Union, all powers and interest, whether of ownership or of control, now or formerly belonging to the Federal Government, in the beds and waters of such navigable streams, and the Federal Government has since retained, and still retains, either as against any claim by a State or by an individual riparian, or both, ONLY the specific paramount right of control for the specific and limited purpose of commerce, that is, of navigation. Moreover, this Federal power of control is purely a sovereign power of control for a

specified public use, and does not include, and cannot be extended to, any element of a proprietary right or interest.

3. That, subject to this purely sovereign right of control navigation, all right, title and interest, sovereign and proprietary, belongs to the States or to individual riparian owners both; and it is not within the Federal authority or power, either judicial or legislative, to fix or determine, as between a State and an individual owner, the limitations between State and individual ownership or control of water powers. The rights and obligations, as between a State and an individual owner, are fixed by the law of property as established by the decisions of the State Supreme Court in the State in question. This law of property, as so fixed in any State, is, as to streams in that State, binding upon the Federal Government and its Supreme Court.

It is an elementary proposition, that nobody, whether sovereign or individual, owns the waters themselves of a running stream. The right, whether it be of sovereign or of subject, is simply the beneficial use of the waters as they naturally flow. It is usufruct.

2 Blackstone, 18.

Sweet v. City of Syracuse, 129 N. Y. 316.

And this is true, both as against the sovereign and the subject, whether the stream be intrastate, interstate, or an international boundary.

U. S. v Chandler Dunbar Co., 209 U. S. 447.

Niagara County v. College Heights Co. (N.Y.), 111 App. Div.

People ex rel etc. v. Smith, 70 App. Div. 543; Affd., 175 N.Y.

In a Minnesota case, in treating of the rights of riparian owners along the Mississippi River, the U. S. Supreme Court said:

We are of opinion that *the property rights* of the plaintiff in error, as *riparian owners, are to be measured by the rights and decisions of the State courts* of Minnesota. This principle, we think, has been announced and adhered to by this court from its very early days, and no distinction has been made between the rights of the original states and those which were subsequently admitted to the Union under the provisions of the Federal Constitution. The provisions of the act of Congress, already cited, (act of February 1857, c. 60, sec. 2, 11 Stat. 166,) making the Mississippi River a common highway for the inhabitants of the United States, and all other citizens of the United States, do not affect the title and jurisdiction of the State over the navigation.

waters within her boundaries more than rights of that nature are limited with regard to the original states. This has been uniformly held, and is so stated in many of the cases hereinafter cited where similar language has been used in the acts admitting States into the Union.

Preliminarily, it may be said that the Mississippi River at the point in question is a navigable stream. In order to be navigable, it is not necessary that it should be deep enough to admit the passage of boats at all portions of the stream. * * *

In *Martin v. Waddell*, 16 Pet. 367, it was held that, when the American Revolution was concluded, the people of *each State* became themselves sovereign, and in that character *held the absolute right to all their navigable waters and the soils under them for their own common use, subject only to the rights since surrendered by the Constitution to the General Government*. The action was ejectment for 100 acres of land covered with water in Raritan Bay in the township of Perth Amboy, in the State of New Jersey. The claim of the plaintiff was founded upon the charters of Charles II to his brother, the Duke of York, in 1664 and 1674, for the purpose of enabling him to plant a colony on the continent of America, the land in controversy being within the boundaries of the charters and in the territory which now forms the State of New Jersey. Those letters patent, as construed by this court, conveyed to the Duke of York all the prerogatives and powers of government residing at the time of their execution in the King of Great Britain, and passed from the jurisdiction of Great Britain to the people of each State after the Revolution. Although the question in that case arose in regard to lands covered with water in Raritan Bay, yet the principles upon which the case was decided have been stated to apply to the rights of the States in regard to all navigable waters within their jurisdiction.

In *Pollard v. Hagan*, 3 How. 212, the question arose in regard to the rights of the State of Alabama in the shores of navigable waters and the soils under them within her limits. The sixth section of the act of Congress, passed on the 2d of March, 1819, 3 Stat. 492, c. 47, for the admission of the State of Alabama into the Union, provided: "That all navigable waters within the said State shall forever remain public highways, free to the citizens of said State and of the United States, without any tax, duty, impost or toll therefor, imposed by said State". It was held that the Government of the United States did not by reason of that enactment possess any more power over the navigable waters of Alabama than it possessed over the navigable waters of other States under the provisions of the Constitution, and that Alabama had as much power over those navigable waters as the original States possessed over the navigable

waters within their respective limits. It was also held that *the shores of navigable waters and the soils under them were not granted by the Constitution of the United States, but were reserved to the States respectively, and the new States had the same rights, sovereignty and jurisdiction over the subject as the original States.*

In *Goodtitle v. Kibbe*, 9 How. 471, the decision of the court in *Pollard v. Hagan*, *supra*, was referred to and affirmed and it was said that, by the admission of the State of Alabama into the union, that State became invested with sovereignty and dominion over the shores of the navigable rivers between high and low water mark, and that after its admission Congress could make no grant of land there situated.

In *Barney v. Keokuk*, 94 U. S. 324, it was recognized the law that the title and rights of riparian proprietors upon the banks of the Mississippi were to be settled by the States within which the lands were included. Mr. Justice Bradley, in stating the opinion of the Court in that case, said (at page 338): "And since this Court in the case of *The Genesee Chief*, 12 How. 443, has declared that the Great Lakes and other navigable waters of the country above as well as below the flood of the tide, are, in the strictest sense, entitled to the denomination of navigable waters, and amenable to the admiralty jurisdiction, *seems to be no sound reason for adhering to the old rule that the proprietorship of the beds and shores of such waters properly belongs to the States by their inherent sovereignty* and the United States has wisely abstained from extending (if it could extend) its survey and grants beyond the limits of high water. The cases in which this Court has seemed to hold a contrary view depended, as most cases must do, on the local laws of the States in which the lands were situated. In Iowa, as above stated, the more correct rule seems to have been adopted after a most elaborate investigation of the subject."

It was also said by the same learned justice in speaking of the English idea of navigable waters being navigable tide waters "It had the influence for two generations of excluding the admiralty jurisdiction from our great lakes and inland seas; and under the like influence it laid the foundation in many states of doctrines with regard to the ownership of the soil in navigable waters above tide level at variance with sound principles of public policy. *Was it as rules of property, it would now be safe to change these doctrines where they have been applied, as before resort was made to them, is for the several states themselves to determine. If they are to resign to the riparian proprietor rights which properly belong to them in their sovereign capacity, is not for others to object.* In our view of the subject the correct principle is that the title and rights of riparian proprietors upon the banks of the Mississippi were to be settled by the States within which the lands were included."

were laid down in *Martin v. Waddell*, 16 Pet. 367; *Pollard's Lessee v. Hagan*, 3 How. 212, and *Goodtitle v. Kibbe*, 9 How. 471. These cases related to tide water, it is true; but they enunciate principles which are equally applicable to all navigable waters."

In *St. Louis v. Myers*, 113 U. S. 566, this Court held that the act of March 6, 1820, 3 Stat. 545, admitting the State of Missouri into the Union, left the rights of riparian owners on the Mississippi river to be settled according to the principles of state law. Mr. Chief Justice Waite, in delivering the opinion of the Court, said: "The act of Congress providing for the admission of Missouri into the Union, Act of March 6, 1820, C. 22, 3 Stat. 545, and which declares that the Mississippi River shall be 'a common highway and forever free', has been referred to in the argument here, but the rights of riparian owners are nowhere mentioned in that act. They are left to be settled according to the principles of state law."

In *Packer v. Bird*, 137 U. S. 661, it was held, that as the highest court of California had decided that the Sacramento River being navigable in fact, a title upon it extends no farther than to the edge of the stream, this Court would accept that decision as expressing the law of the State. *That case asserted the right of each State to determine the extent of the title and of the rights of riparian owners in waters within the territory of the States.* It was also stated that the Federal courts must construe grants of the General Government without reference to the rules of construction adopted by the states for grants by them, but that whatever incidents or rights attached to the ownership of property conveyed by the United States bordering on navigable streams, would be determined by the States in which it is situated, subject to the limitation that their rules do not impair the efficacy of the grant, or the use and enjoyment of the property by the grantee. It was further said that: "*As an incident of such ownership the right of the riparian owner, where the waters are above the influence of the tide, will be limited according to the law of the State, either to low or high water mark, or will extend to the middle of the stream.*"

It does not impair the efficacy of the grant or the use and enjoyment of the property by the grantee to hold that riparian rights are to be decided by the state courts, inasmuch as the grant, if by the Federal Government, has been held in the cases already cited, not to include title over navigable waters within or bounded by the States.

In *Hardin v. Jordan*, 140 U. S. 371, it was held that *grants by the United States of its public lands bounded on streams and other waters, made without reservation or restriction, are to be construed, as to their effect, according to the law of the State in which the lands lie, and that it depends upon the law of each*

State to what extent the prerogative of the State to lands under water shall extend. In the opinion, after stating that the title to the shore and lands under water is in the State and is regarded as incidental to its sovereignty, it is said: "*Such title being in the State, the lands are subject to state regulation and control, under the condition, however, of not interfering with the regulations which may be made by Congress with regard to public navigation and commerce.*" . . . Sometimes large areas (of land) so reclaimed are occupied by cities and are put to other public or private uses, state control and ownership therein being supreme, subject only to the paramount authority of Congress in making regulations of commerce and subjecting the lands to the necessities and uses of commerce" (citing cases). Continuing, the court said: "This right of the States to regulate and control the shores of tide water and the land under them is the same as that which is exercised by the crown in England. In this country the same rule has been extended to our great navigable lakes, which are treated as inland seas; and also in some of the States, to navigable rivers, as the Mississippi in the Missouri, the Ohio, and, in Pennsylvania, to all permanent rivers of the State; but it depends upon the policy of each State to what waters and to what extent this prerogative of the State over the land under water shall be exercised."

Mr. Justice Brewer, in his dissenting opinion (page 242) in the above cited case, which was concurred in by Mr. Justice Gray and Mr. Justice Brown, agreed: "That the question how far the title of a riparian owner extends is a question of local law. For a determination of that question the statutes of the State and the decisions of its highest court furnish the best and the final authority." And the dissent was based upon the theory that although the right of the State to determine this matter was not questioned in the prevailing opinion, there was, nevertheless, error committed by the majority of the court in refusing to follow a decision of the state court on the very question then under review and in following instead thereof previous decisions of the state court inconsistent therewith.

In *St. Louis v. Rutz*, 138 U. S. 226, 242, cited in the dissenting opinion above referred to, it was said by Mr. Justice Blatchford, in delivering the opinion of the court: "The question as to whether the fee of the plaintiff, as a riparian proprietor on the Mississippi River, extends to the right thread of the stream, or only to the water's edge, is a question in regard to a rule of property which is governed by the local law of Illinois."

In *Kaukauna Water Power Company v. Green Bay & Mississippi Canal Co.*, 142 U. S. 254, Mr. Justice Brown, in delivering the opinion of the court, said at page 271: "It

settled law of Wisconsin, announced in repeated decisions of its Supreme Court, that the ownership of riparian proprietors extends to the centre or thread of the stream, subject, if such stream be navigable, to the right of the public to its use as a public highway for the passage of vessels (citing cases). In *City of Janesville v. Carpenter*, 77 Wisconsin, 288, 300, it is said of the riparian owner: 'He may construct docks, landing places, piers and wharves out to the navigable waters, if the river is navigable in fact, but if it is not so navigable he may construct anything he pleases to the thread of the stream, unless he injures some other riparian proprietor, or those having the superior right to use the waters for hydraulic purposes. . . . Subject to these restrictions, he has the right to use his land under water the same as above water. It is his private property under the protection of the Constitution, and it cannot be taken, or its value lessened or impaired even for public use, "without compensation," or "without due process of law," and it cannot be taken at all for any one's private use.' With respect to such rights, we have held that the law of the State, as declared by its Supreme Court, is controlling as a rule of property."

Water Co. v. Water Board, 168 U. S. 358-365.

The Court then goes on to discuss the case of *Shively v. Bowlby*, 152 U. S., 1, where the Federal Court had occasion to pass upon a decision of the Supreme Court of Oregon, restricting the rights of private riparian owners in lands under water, and extending the corresponding rights of the State. This case is often cited as authority for the general rule of proprietary interest of the State or Government in the beds of waters of navigable streams, and as an adjudication of such rule by the Federal Supreme Court. Under the circumstances of the case, however, the truth of the propositions to which we are now citing authorities is doubly confirmed by that decision. The decision was on the principle as stated, that, excepting only the Federal right of control under the Constitutional authority to regulate commerce, all the rights of ownership and beneficial use in the beds and waters of navigable streams passed to the State; and that this is true, whether it be one of the original States or one since admitted; and that it was for the State, by its Courts, to determine the relations and respective rights between the State and the individual riparian. The Federal decision in the case

of *Shively v. Bowlby* was based entirely upon this principle. Speaking of that case, the U. S. Supreme Court, in the case last cited, said:

" In *Shively v. Bowlby*, 152 U. S. 1, it was again said that the new States admitted into the Union since the adoption of the Constitution have the same rights as the original States in the tide waters and in the lands under the water within their respective jurisdictions. It was also remarked that, upon the question, how far the title of the owner of the land extends bounding upon a river actually navigable but above the ebb and flow of the tide, there is a diversity in the laws of the different States; and that the title and rights of riparian or littoral proprietors in the soil below high-water mark are governed by the laws of the several States, subject to the rights granted to the United States by the Constitution.

The suit was in the nature of a bill in equity brought to quiet title to lands below high-water mark in the city of Astoria, the question involving the rights in navigable waters as between the State and others. The opinion on page 57 states as follows: ' By the Law of the State of Oregon, therefore, as enacted by its legislature and declared by its highest court, the title in the lands in controversy is in the defendants in error; and, upon the principles recognized and affirmed by a uniform series of recent decisions of this court above referred to, the law of Oregon governs the case '. The opinion refers to all the cases which we have above cited and many others, upon the various questions which are discussed in the case, and recognizes the rule *it belongs to the States to decide as to the character and extent of the riparian rights of owners upon navigable waters within such states.*

It is true that in these various cases the exact point of controversy in this case in regard to the rights of the State as against riparian owners has not arisen. The dispute has generally been as to the extent and character of the rights as between the United States or the State and the riparian owner to lands under water, and as to the right of the riparian owner to build out from the shore piers or wharves so as to reach the navigable portion of the stream; but the principles laid down in all these cases necessarily include the question of the right of the state courts to decide, as a matter of local law, the point now under discussion, *subject to the acknowledged jurisdiction of the United States under the Constitution regard to commerce and the navigation of the waters of the State. The jurisdiction of the State over this question of riparian ownership has been always, and from the foundation of the government, recognized and admitted by this court.*"

Water Co. v. Water Board, 168 U. S. 365-6.

The reasons stated by the U. S. Supreme Court, why private ownership was excluded from the beds of navigable rivers in this country, contrary to the common law of England, are as follows:

“ It is, indeed, the susceptibility to use as highways of commerce which gives sanction to the public right of control over navigation upon them, and consequently to the exclusion of private ownership, either of the waters or the soils under them.”

Packer v. Bird, 137 U. S. 661, 667.

And, after stating the effect of the original grants as above stated, the United States Supreme Court held that each state could by its local law give further rights of property and user to riparian owners; that is, that the private right of ownership or use could by the local law of the state be extended, saying:

“ The courts of the United States will construe the grants of the general government without reference to the rules of construction adopted by the States for their grants; but whatever incidents or rights attach to the ownership of property conveyed by the government will be determined by the States, subject to the condition that their rules do not impair the efficacy of the grants or the use and enjoyment of the property by the grantee. As an incident of such ownership the right of the riparian owner, where the waters are above the influence of the tide, will be limited according to the law of the State, either to low or high-water mark, or will extend to the middle of the stream.”

Packer v. Bird, 137 U. S. 661, 669-70.

After stating the general rule as it exists without any change by local law of the state, the Court further says:

“ Whether as rules of property, it would now be safe to change these doctrines where they have been applied, as before remarked, is for the several States themselves to determine. If they choose to resign to the riparian proprietor rights which properly belong to them in their sovereign capacity, it is not for others to raise objections.”

Packer v. Bird, 137 U. S. 661, 671.

This principle was affirmed in a later case that came up to the United States Supreme Court from Wisconsin, where, in order to determine the claim made by certain riparian owner that

their property rights had been taken away without due process of law, and where, therefore, it was necessary to determine where their property rights were, the U. S. Supreme Court held that such rights of property and user must be determined by reference to the decisions of the Supreme Court of Wisconsin upon the subject, on the principle as stated in that case as follows:

“ With respect to such rights, we have held that the law of the State, as declared by its Supreme Court is controlling as a rule of property. *Barney v. Keokuk*, 94 U. S. 324; *Packer v. Bird*, 137 U. S. 661; *Hardin v. Jordan*, 140 U. S. 371.”

Kaukauna Co. v. Greenbay Co., 142 U. S. 254, 272.

In the *Hardin* case, with reference to the same question the Supreme Court had said:

“ It depends on the law of each state as to what waters and to what extent this prerogative of the state (the prerogative originally left to the state when the state was organized) over the lands under the water, shall be exercised. In the case of *Barney v. Keokuk*, 94 U. S. 324, we held that it is for the several states themselves to determine the question, and if they choose to resign to the riparian proprietors rights which properly belong to them in their sovereign capacity, it is not for others to raise objection.”

Hardin v. Jordan, 140 U. S. 371, 382.

And in the same case, quoting with approval, the Court (page 395):

“ By the common law, all waters are divided into public waters and private waters. In the former the property is in the sovereign; in the latter, in the individual proprietor. The title of the sovereign being in trust for the benefit of the public—the use, which includes that of fishing and of navigation, is common. The title in the individual being personal in him, is exclusive—only to a servitude to the public for purposes of navigation if the waters are navigable in fact. * * * And in cases in which waters above the ebb and flow of the tide, such as great inland lakes and the larger rivers in the country, are held to be public in any other sense than being subjected to the public for purposes of navigation, they are confessedly a departure from the common law.”

In the same case, remarking upon an opinion by a federal judge that it would seem to be "unfair and unjust to allow a party to claim and hold against his grantor the bed of the lake containing thousands of acres, solely on the ground that he had bought and paid for the small surrounding fractional tracts—the mere rim," the United States Supreme Court said, page 397:

"We do not think that this argument *ab inconvenienti* is sufficient to justify an abandonment of the rules of the common law, which, as we have shown have been adopted in Illinois as the law of the land. It is too much like judicial legislation. It is as much as to say: 'We think the common law might be improved, and we will, therefore, improve it.'"

In *Fallbrook Irrigation District v. Bradley*, 164 U. S. there was presented to the United States Supreme Court the following facts (page 159):

A certain constitutional provision of California provides as follows:

"Water and Water Rights. Sec. 1. The use of all water now appropriated or that may hereafter be appropriated, for sale, rental or distribution, is hereby declared to be a public use and subject to the regulation and control of the State in the manner to be prescribed by law." Constitution of California, Art. 14.

A further act of the legislature to carry out those constitutional provisions, provides as follows:

"The use of all water required for the irrigation of the lands of any district formed under the provisions of this act, together with the rights of way for canals and ditches, sites for reservoirs, and all other property required in full carrying out the provisions of this act, is hereby declared to be a public use, subject to the regulation and control of the State, in the manner prescribed by law."

Referring to those constitutional and statutory provisions, the United States Supreme Court said (page 159):

"The Supreme Court of California has held in a number of cases that the irrigation act is in accordance with the state constitution, and that it does not deprive the land-owners of any property without due process of law; that

the use of the water for irrigating purposes under the provisions of the act is a public use, and the corporations organized by virtue of the act for the purpose of irrigation as public municipal corporations organized for the promotion of the prosperity and welfare of the people. *Turlock Irrigation District v. Williams*, 76 California, 360; *Central Irrigation District v. De Lappe*, 79 California, 351; *In re Maders Irrigation District*, 92 California, 296."

The claim was made that these decisions of the Supreme Court of California not only fixed the property rights of riparian owners, but also determined finally the federal questions as to whether the enforcement of those acts constituted due process of law; and referring to this claim, the U. S. Supreme Court said:

"We do not assume that these various statements, constitutional and legislative, together with the decisions of the state court, are conclusive and binding upon this court upon the question as to what is due process of law, and incident thereto, what is a public use. As here presented these are questions which also arise under the Federal Constitution, and we must decide them in accordance with our views of constitutional law."

In other words, that the law of property rights of the riparian owner, as against any infringement by statutory or constitutional provisions, would be determined by the common law of the state as such common law was established by the decisions of the highest court in that state. But when it came to the determination of the question as to whether those property rights established were by some statute or by some constitutional provision of the state, attempted to be taken away or diminished without due process of law, that was a question which must be decided "in accordance with our view of the constitutional law,"—that is, in accordance with the view of the United States Supreme Court.

In the case of *Kansas against Colorado*, 206 U. S. decided in 1907, the Court held that the riparian rights in any particular state were to be ascertained by the common law of that state relative to those rights, as such common law was established by the decisions of the highest court in that state.

commenting upon this, the United States Supreme Court quoted the definition of Chancellor Kent, in answer to the question "What is the common law," as follows (page 96):

"The common law includes those principles, usages and rules of action applicable to the government and security of persons and property, which do not rest for their authority upon any express and positive declaration of the will of the legislature."

And then the U. S. Supreme Court, immediately following this definition of what is the common law which fixes property rights, said (pages 96-7):

"As it does not rest on any statute or other written declaration of the sovereign, there must, as to each principle thereof, be a first statement. Those statements are found in the decisions of courts, and the first statement presents the principle as certainly as the last. Multiplication of declarations merely adds certainty. For after all, the common law is but the accumulated expressions of the various judicial tribunals in their efforts to ascertain what is right and just between individuals in respect to private disputes."

In accordance with this principle, this case of *Kansas v. Colorado* was decided against the complaint of Kansas, because the United States Supreme Court found, from an examination of the decisions of the Supreme Court of Kansas, that the state of Colorado, with reference to the diversion of the waters of the Arkansas River, for irrigation, had not done anything which infringed the rights of the riparian owners in the state of Kansas. In other words, it found that the property rights of the riparian owners in Kansas were by the law of Kansas as established by the decisions of the Kansas Supreme Court, subject to the diversions complained of, whether the same had been made in Colorado or in Kansas.

All these cases show this: (1) that no declaration by constitutional provision or by legislative act can affect the vested property rights of riparian owners; and (2) that such property rights of riparian owners are fixed and determined by the common

law of the state and that that common law is established by the decisions of the Supreme Court of that state upon the subject matter.

In every case where the question of taking the riparian owner's rights by some state statute has been brought before the United States Supreme Court, in order to determine whether such statute was repugnant to the United States Constitution on the ground that it was a law of the state taking property without due process of law,—in all such cases the United States Supreme Court has first considered as to what were the limitations upon the rights of property and user belonging to the riparian owner in the state in question. And in determining those rights, has invariably done so, by examining the common law of that state, as established by the decisions of the Supreme Court of that state. There is absolutely no exception. Further proof of this proposition is given if one will examine the many cases which have gone up to the United States Supreme Court from those far Western states where the law of "appropriation" of waters for irrigation and mining purposes prevails, and where the common law of riparian rights has never been recognized. It has often occurred that the riparian owners in those states have brought suits based upon claims of the usual riparian rights—claims for injunction or damages by reason of diversion of water from the stream above them for irrigation or mining purposes. These were diversions which would not be allowed in a state having the usual law of riparian rights. The question examined and determined by the United States Supreme Court in these cases is: What is the right of property and user belonging to the riparian owner in that state? And this question has been answered by them invariably by an examination of the decisions of the highest court of that state.

U. S. v. R. G. Irrigation Co., 174 U. S. 690, 704-5.

Broder v. Water Co., 101 U. S. 274, 276.

Boquall's Land and Cattle Company v. Curtiss, 213 U.

In the last case the common law doctrine of riparian rights was held not to obtain in the Territory of Arizona, not by

of certain statutes so declaring, but because, by the decisions of the Supreme Court of the Territory rendered before and after those statutes were passed, the doctrine of appropriation had become part of the common law of that Territory.

Thus, all proprietary rights in or to the beneficial use of the beds and waters of navigable streams have passed out of Federal ownership or control, and belong either to the States or to the private individual riparian, or both. There has also passed to the States all sovereign power of control, for all purposes, save only the sovereign power of control expressly reserved to the Federal Government by its constitutional authority to regulate commerce. The Federal power to regulate commerce extends to these navigable, fresh water streams solely by virtue of the fact that they are susceptible of commercial use. They are natural highways of commerce, and they are classed as navigable, for the purpose of such control, regardless of the fact that, at exceptional points, their natural state may not permit of continuous navigation.

The important point here is to note that the U. S. Supreme Court has expressly established every proposition above stated to be demonstrated in this part of the discussion.

The Federal constitutional control contains no element of a proprietary nature. It is purely a sovereign power of control for a specific public purpose; it is a power in trust; it is created and limited by express terms in the Federal constitution. More than that, it is created by a reservation, without which, expressly stated, the power reserved would have been left in, or have gone to, the respective States. Under these circumstances of the origin of the power and of its basis and nature, it cannot be divested nor alienated, and within its proper limits, is paramount. For the same reasons also it cannot be extended to the exercise of powers or authority beyond the limits reasonably necessary to the exercise of the specified constitutional power. Any such extension of its limits would be, not only *ultra vires*, but would lead to encroachments upon the rights, privileges, powers and authority of the States, (or their subjects) to whom

all interests, except the specific power expressly reserved, have been transferred. It would lead also to encroachments upon private property rights of individual riparian owners.

The extent and damage of such possible encroachment can be understood only by a review of the limitations between the rights of the State and those of the private riparian.

II.

LIMITATIONS BETWEEN STATE AND INDIVIDUAL CONTROL OF WATER POWERS.

These limitations, as we have already seen, are determined by the States, and are established by the adjudications of the State Supreme Courts upon these questions. There was formerly, I have said, great diversity, even conflict, in the decisions of the States upon this question, but in recent years adjudications have covered this field of study so thoroughly and clearly that, without substantial exception, the rules of law obtaining in the States which have the common law riparian rights—which include all States not holding to the law of appropriation—as has been shown, are fixed, as in Minnesota and in New York. We will thus take one example from the West and one from the East and establish, by the adjudications in these States, the following propositions:

1. The title and power of control by the State over the lands and waters of navigable streams are not in any degree proprietary in nature or extent. They are limited to a holding in trust for the sovereign, for the specific purpose of protecting a public right of navigation and certain allied public uses.

2. The title and the power of the State are subject only to the Federal paramount power of control, as established by the Federal Government as above demonstrated. They are limited also by the private proprietary right of the riparian, as fixed by the law of the State.

3. The private riparian owner owns and retains all, and the only, proprietary title, right and interest, either to the beds and waters of such streams or to the usufruct thereof. He has the proprietary right to the beneficial use of the flow of the waters in connection with the natural head and fall upon or opposite his riparian land, and to the whole thereof; he has a proprietary right to utilize the bed and waters for the development of power and for the operation of water power plants. This right belongs to him *JURE NATURAE*, that is, because it is a natural resource and right belonging to and appurtenant to his riparian land and a part thereof. And this private proprietary right is subject only to the sovereign right of control by the Federal and State Governments, for the public use of navigation.

4. As between the State and the riparian owner, the sovereign power of control of the former ends where the proprietary right of the latter begins; and the private right exists up to the point beyond which it would be inconsistent with the specific and limited public right. This private proprietary right of the riparian is the same, whether the title to the bed of the stream, either below high water or below low water mark, is said to be held by the State or by the riparian. The attempted distinction between the riparian rights, on the basis of the riparian's having a mere easement instead of a title, is, so far as these questions are concerned, purely speculative.

Much confusion has been brought about by the differences in the extent to which different States have released to the riparian owner the naked title in the bed of navigable streams. I shall point out hereafter more specifically that, so far as their substantial effect on the property right of the riparian owner is concerned, these distinctions are really without any difference,—bearing in mind that the “property right” of the riparian owner includes not merely that which is covered by his naked fee, whether that fee be limited to the shore or extends to the middle of the stream, but includes **all** vested property rights of usufruct, **all** rights of beneficial use which are appurtenant to his fee title. This will be shown by the following cases, where it will be shown

also that the right of the State is limited to the mere power control for the public use of navigation, including allied put interests, like fishing, and, in Minnesota alone (56 Minn., 48 including the use for public water supply.

From the Leading Minnesota Cases.

In *Lamprey v. State*, 52 Minn. 181, Judge MITCHELL : (p. 198):

" In this State we have adopted the common law on subject of waters, with certain modifications, suited to difference in conditions between this country and Engl the principal of which are the navigability in *fact* and the ebb and flow of the tide is the test of navigability, that we have repudiated the doctrine that the State any private or proprietary right (as had the King navigable waters, but that it holds them in its sove capacity, as trustee for the people, for public use."

Many years ago the English government establish "Thames Conservancy Act," giving to a certain comm the power to control water power, and other uses of the Th Under that act, the commission (Conservators) attempt assert a right of control over the beneficial use by the ri owner of his riparian rights,—which the House of Lord could not be done, and Lord Selbourne held:

" The rights of a riparian proprietor, so far as they to any natural stream, exist *jure naturæ*, because h has by nature the advantage of being washed by the st

Lyon v. Fishmongers Co., 1 L. R. A. App. Cas. 662. by the Minnesota Court.)

In 1876 the Minnesota Supreme Court held that, with to a riparian owner's rights in a navigable stream, and to the bed of the stream by structures in order to obt vantage of the beneficial use of the waters in the bed of th to which he was entitled as riparian owner, such right

" Subordinate and subject only to the navigable the public and such needful rules and regulations

protection as may be prescribed by competent legislative authority. *The rights which thus belong to him, as riparian owner of the abutting premises, are valuable property rights of which he cannot be divested without consent, except by due process of law, and, if for public purposes, upon just compensation.*"

Brisbine v. R. R. Co., 23 Minn. 114.

The *Lyon* case is among those cited by Judge Gilfillan in 1879, when he held with reference to water powers upon the Mississippi river:

"As it seems to us, none of these opinions state the right too strongly. If the right exists *jure naturæ*, because the land has, by nature, the advantage of being washed by the stream, it is impossible to see how any such distinction as defendant claims can be made as to the peculiar uses which the riparian owner may make of the waters. The limit to the private right is imposed by the public right, *and the private right exists up to the point beyond which it would be inconsistent with the public right.*

"We think the right in the riparian owner to put the water to any useful purpose may be sustained by considerations of public policy. It is certainly for the interests of the public that where the waters of a navigable stream may, without interfering with the public right, be put to some useful purpose, the right to so use them should exist."

"We will state the rule at which we have arrived nearly in the language of the court in *People v. Tibbetts*, 19 N. Y. 523: The riparian owner may undoubtedly use, for any purpose, the water of a navigable stream passing or adjoining his land, for his own advantage, so long as he does not impede the navigation, in the absence of any counter claim by the State or United States."

Morrill v. St. Anthony Falls W. P. Co., 26 Minn. 222, 228.

In the same year an attempt was made at Minneapolis to assess developed water powers as personal property. In a decision holding that they were part of the real estate, the Supreme Court of Minnesota said:

"In the recently decided case of *Morrill v. St. Anthony Falls Water Power Co.*, ante, p. 222, we had occasion to consider the question of the rights of riparian proprietors upon the Mississippi river. The general rule arrived at was that a riparian owner may use the waters of a navigable

stream adjoining his land, for any purpose, for his own advantage, so long as he does not impede navigation, and the absence of any counter-claim by the State or the United States. *As the riparian owner has this right to the use of the water, he has a right to enjoy it and make it available, otherwise his right would be a worthless abstraction. He may, therefore, subject to the limitations of the general rule before stated, use the bed of the stream, if necessary or convenient to the enjoyment of his right to the use of the water. He may erect dams there, and such other structures as will promote and facilitate the enjoyment of this right.* For these purposes the riparian proprietor may properly be said to have, if not an interest, certainly a right, in the bed of the stream itself. *The right of a riparian proprietor upon a navigable stream, such as the Mississippi, rests, as is held by this court, in the case above cited, upon the fact of riparian ownership; that is to say the riparian proprietor possesses this right because he owns land upon the bank; and this is equivalent to saying the right is attached as an incident to the riparian land, and belongs and appertains to the same. * * ** The defendant is the owner of the bank, and of the right to the use of the water, and, therefore, of the right to make his right to use of the water available by using the bed of the stream. In the defendant's hands the riparian land, and the right to the use of the water, and to the use of the bed of the stream are held together. The principal, which is the riparian land, draws to it the incident, which is the right to the use of the water, so that the latter is part and parcel of the former."

State v. Minneapolis Mill Co., 26 Minn. 229, 231.

Riparian land is now assessed upon the basis of two values: (1) The value of the land as such and (2) the value of the water power, developed or undeveloped, which is appurtenant to the land. so that water powers now can be and are taxed.

In the *Morrill* case above quoted from it was held that no limit to the private right is imposed by the public right. Later the Minnesota courts fixed the nature and limits of the public right. In 1892 the Court held:

"It has been decided over and over again by this court that the right of the riparian owner to improve, reclaim, or occupy the submerged land in front of his shore at the point of navigability is a vested property right which cannot be taken away, even by the State for a public use without compensation. *Brisbane v. St. Paul, & Northern Pacific R.R. Co.*"

R. R. Co., 23 Minn. 114; *Union Depot, etc., Co. v. Brunswick*, 31 Minn. 297 (17 N. W. Rep. 626); *Hanford v. St. Paul & Duluth R. R. Co.*, *supra*. The old common law doctrine, or at least what has been generally assumed to be such, and which was adopted in some of the early American colonies, that the crown has a *jus privatum* or right of private property, in navigable waters and their shores, which it could alienate to a subject, has no place in the jurisprudence of this State. *It is the settled law with us that the rights of the State in navigable waters and their beds are sovereign, and not proprietary, and are held in trust for the public as a highway, and are incapable of alienation. Union Depot, etc., Co. v. Brunswick, supra, Hanford v. St. Paul & Duluth R. R. Co., supra."*

Bradshaw v. Duluth Imperial Mill Co., 52 Minn. 59. Cited and approved in *Gilbert v. Emerson*, 55 Minn. 259.

Thus it is determined that the State had no proprietary interest either in the waters or the bed or in the use of the same. It is simply a sovereign interest to protect the waters and bed for navigation uses which are paramount to the rights of the riparian owner.

These public uses are clearly defined, and do not to any degree include the right of the State, in any capacity, to appropriate to itself any right, interest, income or control of water powers appurtenant to private property, either developed or undeveloped, so far as such attempt at appropriation is made for the purpose of giving to the State any benefits in the natural energy or beneficial use of such water powers.

Judge Gilfillan held that the most important public use for the protection of which the State had a right of control, was that of navigation.

In 1893, in discussing the paramount public uses, Judge Mitchell held that in Minnesota, a proper division of streams, instead of dividing them into navigable and non-navigable, should be a division into public and private waters, and that the public uses which might be protected by the control of the State should include not only navigation, but also fishing, bathing and cutting ice.

Lamprey v. State, 52 Minn. 181, 200.

Next to navigation, the most important public use which paramount in Minnesota, is that of diversion by cities for public water supply.

Mill Co. v. St. Paul Water Works, 56 Minn. 485.

It is apparent that the building and operation of a dam by a riparian owner for the utilization of his water power can interfere with the exercise of the public right to take out water for public water supply, and that the only effect of such public use would be to some extent to diminish the flow of water. Also such construction and maintenance by a riparian owner could not interfere with fishing or cutting ice, but would rather facilitate such public use. Fishways in dams are already provided for by statutes, both state and federal. The only limitation under the law of property to the absolute right of a riparian owner to utilize the water power appurtenant to his land by the construction and maintenance and operation of dams and water power plants is that they should be constructed and maintained so as not to interfere with navigation, and if interference be made, then the State, exercising its sovereign right of control for the protection of navigation, may prevent such interference. This is the entire extent of the right of the State in navigable waters so far as such right is paramount to the riparian owner's vested property right to the entire natural energy and beneficial use of the waters which flow over or through his lands or which lie adjacent to it.

Therefore, subject only to the control by the State for specified public uses, navigation, water supply, fishing, etc., the riparian owner has absolute right to all the natural and beneficial use of the waters as they pass over or by his lands. The fact that he owns the fee only to low water mark does not affect these riparian rights which are his property rights.

"In this State it is the settled doctrine that the riparian owner has the fee to low water mark. *Schurmeier v. St. Paul & Pacific R. Co.*, 10 Minn. 59 (82); *Brisbane v. St. Paul & Sioux City R. Co.*, 23 Minn. 114. But while he has the fee to low water mark, he has certain riparian rights incident to the ownership of real estate bordering

navigable stream. Among these are the right to enjoy free communication between his abutting premises and the navigable channel of the river, to build and maintain suitable landings, piers, and wharves, on and in front of his land, and to extend the same therefrom into the river to the point of navigability, even beyond low water mark, and to this extent exclusively to occupy for such and like purposes the bed of the stream, *subordinate only to the paramount public right of navigation*. *Dutton v. Strong*, 1 Black 22; *Railroad Co. v. Schurmeier*, 7 Wall. 272; *Yates v. Milwaukee*, 10 Wall. 497; *supra*; *Rippe v. Chicago, D. & M. R. Co.*, 23 Minn. 18; *Brisbine v. St. Paul & Sioux R. Co.*, *supra*. *These riparian rights are property, and cannot be taken away without paying just compensation therefor. The state could not do it or authorize anyone else to do it. Yates v. Milwaukee, supra; Lyon v. Fishmongers Co., L. R. 1 App. Cas. 662; Brisbine v. St. Paul & Sioux City R. Co., supra.*"

Union Depot Co. v. Brunswick, 31 Minn. 297.

This law of property right was again asserted in 1890:

"In this State the title of the proprietor of lands abutting upon navigable waters extends to low water mark; the bed of the stream or body of water, below water-mark, being held by the State, not in the sense of ordinary absolute proprietorship, but in its sovereign government capacity, for common public use. *Union Depot, etc., Co. v. Brunswick*, 31 Minn. 297 (17 N. W. Rep. 626), and cases cited. **The estate of interest of the riparian owner in the bed of the stream above low water mark is subject to the right of the public to use the same for the purposes of navigation; but restricted only by that paramount public right, the riparian owner enjoys valuable proprietary privileges, among which we shall consider particularly the right to the use of the land itself for private purposes.** A considerable extent of the shores, not only along tide-waters of the ocean coasts, but on our great inland waters, are of such a nature, out to and even beyond low water mark, as to be in general unavailable by the public for the purposes of navigation, and must remain forever waste and useless lands, unless reclaimed by artificial means from the shallow water covering them, or unless otherwise improved. It is established beyond question in this State, and in other states as well, that the proprietor of the riparian lands may make such improvement. **Subject only to the limitation that he shall not interfere with the public right of navigation, he has the unquestionable and exclusive right to construct and maintain suitable landings, piers and wharves into the water and up to the point of navigability for his own private use and benefit.**

* * * As the right of private use and enjoyment of the improved or reclaimed premises will continue so long at least, as it does not interfere with the limited and defined public interests, it is obvious that in general, it may continue forever.

This private right of use and enjoyment is not, we think, limited to purposes connected with the actual use of navigable water, but may extend to any purpose not inconsistent with the public right. * * *

This right of the riparian proprietor, even before it has been in any manner exercised by reclaiming or improving the premises, the right itself to reclaim, improve, or occupy is a property right, vested in him, recognized and protected in the law as property. He cannot be deprived of it without due process of law. It cannot be taken from him, and devoted to public use, without compensation. * * *

These peculiar property rights of the riparian owner constitute, estimated in connection with the riparian land, the chief value of the premises. It may even be that the whole value of such real property consists in the right to improve and occupy the submerged lands for private purposes. The extent of the riparian right in this respect is not measured by the value of the upland, nor by the distance to which the owner's estate may extend inland from shore. The barest strip of upland, though wholly valueless and useless in itself, justifies the owner in the exercise and enjoyment of the privilege of riparian proprietorship to the fullest extent."

* * *

We have thus considered that the riparian proprietor has the exclusive right—absolute as respects everyone but the State, and limited only by the public interests of the State—for purposes connected with navigation—to improve the land, claim, and occupy the submerged land, out to the point of navigability, for any private purpose as he might desire, were his separate estate; that this right, even though never exercised, is recognized and protected by the law as property, of which he cannot be deprived even by the State without just compensation."

Hanford et al. v. St. Paul & Duluth R. R. Co., 43 Minn.

In 1898, referring to the dam built by a riparian owner on the Red Lake River, the Supreme Court, in an opinion written by Judge Mitchell, holds that that river is a navigable stream. Referring to the rights of riparian owners, says:

"The fact that the plaintiff did not obtain any license to build the dam does not render it unlawful. A riparian owner has the right to build a dam on his land, and to use it for any purpose, so long as it does not interfere with the public interests of the State."

has a right, without license, to construct a dam across a stream which does not obstruct or interfere with the navigation of the stream for the purposes for which it is navigable. This is a right which is appurtenant to the ownership of the bank."

Kretzschmar v. Meehan et al., 74 Minn. 211, 215.

In 1909, referring to a dam built and maintained by a riparian owner on the Snake River, the Supreme Court, after holding that that river was a navigable stream, said, with reference to the riparian owner's rights to build and maintain a dam:

"So far as the State was concerned, the owner of the bank was at liberty to construct and maintain the dam so long as it did not constitute an interference with the navigable rights of the public in the stream, and the state had no authority to authorize the construction of a dam across the river without providing for compensation to all parties who might be damaged thereby. It is the well settled law of this country that the legislature cannot authorize the flooding of lands without compensation to the owner, and the right to flood land by extending a dam across such streams may be acquired by adverse possession for the statutory period. A riparian owner has the right, without license, to construct a dam which does not obstruct or interfere with the navigation of the stream. This is a right which is appurtenant to the ownership of the bank."

Simons v. Munch, 107 Minn. 370, 372.

Again, in 1904, in a case upon the Red Lake River at Crookston, Sprague, a log driver, was using the stream for navigation purposes, for driving his logs. He was holding his logs by a boom just above the dam of the Crookston Water Works, Power & Light Company, and, on the theory that, as navigator, he had paramount rights, and that the dam was an illegal obstruction to such navigation for logs, he let his logs down in a bunch, so that they did not go through the sluices provided for them, but went over the crest of the dam and smashed the dam. The Company sued him for damages. He claimed as a principal defense that the dam had not been constructed by any license from the State or the United States government, and that it was an illegal structure, as the Red Lake River was a navigable stream. But the Supreme Court held that as the Crookston Company was a

riparian owner, it had the right, without any license, to construct and maintain the dam and that Sprague was liable for his negligence in not using the sluices provided in the dam for logs. The court said:

“ Subject to the control of Congress in proper cases and *independently of statute*, the right of riparian owners to construct, maintain and operate dams upon rivers and streams in this State, is firmly established by the decision of this court.”

Crookston W. W. P. & L. Co. v. Sprague, 91 Minn. 461, 46

In the last above three decisions we have the rule of property rights, which we have stated belong to the riparian owner brought down to date and affirmed as the law of property rights in this State. The riparian owner has a right to build and maintain his water power dam, without any franchise or license from the State; because his right so to do is “ appurtenant to ownership of the bank ”. He has this absolute right with only limitation that his structure shall not interfere with navigation. That right belongs to him entirely by reason of the fact of his riparian ownership. He is not obligated to get a license from the State even though the obligation to obtain a license is imposed by statute. More than that, as shown by the next to last above, the State itself has not such an interest in the bed or waters of a stream that it can build a dam, or authorize the construction of a power dam in the river adjacent to the land of a riparian owner, or by any such structure, flood or injure the land of a riparian owner, “ without providing for compensation to all parties who might be injured thereby.”

These rules defining the rights of riparian owners in Minnesota have been recognized and affirmed by the United States Supreme Court, for the reason, as shown above, that the property right of the riparian owner is determined by the decisions of the State Supreme Court.

Water Power Co. v. Water Board, 168 U. S. 360, (quoted at length above).

Perhaps the most thoroughly considered case in regard to the Minnesota law is found in a recent decision by Judge Morris of the United States District Court, and affirmed by the Circuit Court of Appeals in an opinion where the reasoning and conclusions of Judge Morris were approved. In that case an island had formed in the bed of the Mississippi River, at Minneapolis, opposite the riparian land of the plaintiff Hobart. The city, through Hall, claimed the island by grant from the State, on the ground that the State held the title to the bed and therefore acquired a proprietary interest in the islands formed in the bed. This brought up the entire question of the relations between the State and the riparian owner, and Judge Morris reviews the decisions and the law, which he summarizes as follows:

“ That where there is no reservation, express or from the circumstances necessarily implied, in a grant of lands bounded by a stream navigable in fact, like the Mississippi River, the grantee takes the absolute title in fee to high water mark, or at furthest to low water mark; that the State has title to the soil or land under the water, between the edge of the stream and the middle thread thereof, in its sovereign capacity, in trust for the public, for the purpose of preserving, protecting, and improving the public right of navigation; that such right or title of the State is paramount for that purpose, but it is not proprietary, or one under which it can alienate or convey any portion of said soil or land under water, or any island formed thereon, to a stranger but is a limited title or ownership,—limited to that purpose and extending no further;—that the riparian owner has also a right or title to such soil or land under water, between the edge of the stream and the middle thread thereof, which, though subject and subordinate to this title of the State, is proprietary, and exclusive as to all others than the State, or the general government, and even as to the State or general government exclusive, except as they may act by their properly constituted authorities in protecting, preserving, or improving said public right, and which he can convey to another in whole or in part; *that the limit to this private right is imposed by the public right, and by that only, and the private right exists up to the point beyond which it would be inconsistent with the public right, and with that only and that such public right can only be exercised by the state, or, where the stream can be used for purposes of interstate commerce, by the general government, through its properly and constituted authorities*; that under this right of title, the

riparian owner, or his grantee, has the exclusive right to reclaim, occupy and use, for any purpose not inconsistent with the public right, such soil or land under water, or any part thereof, out to the middle thread of the stream, or certainly to the main navigable channel thereof, subject only to such paramount right of the State, or of the general government; that under this right or title such riparian owner, or his grantee, has the exclusive right, subject only to such paramount right of the State or general government, to occupy and use, for any purpose not inconsistent with such public right, any island, or part thereof, between his shore line and the middle thread of the stream, whether such island exists at the time of the survey and is omitted therefrom in good faith and without palpable mistake, or afterwards formed by the gradual action of the waters, as against all others than the State or the general government, acting under the paramount authority above referred to, he has the exclusive right to the possession thereof."

Hobart v. Hall, 174 Fed. Rep. 433.

This decision of Judge Morris in the *Hobart* case was affirmed and his conclusion, and the reasoning which was the basis thereof, expressly approved by the Circuit Court of Appeals. The appellate Court held that the State has no proprietary interest in the bed of the stream, but

" holds the bed in its sovereign capacity, in trust, to preserve for the public the right of free navigation "; and that subject only to this public trust, " a riparian owner, under a government patent * * * has the right of possession and use of the bed of the stream between low water mark and the navigable channel "

Hall v. Hobart (decided Apr. 1911), 186 Fed. 426, 108 C. Rep. 348.

Another recent United States case confirms the rule as shown that no proprietary interest in the beds of navigable streams has been reserved by the United States government, whether such streams are intrastate or boundary streams. Further, that the riparian owner has the entire proprietary title and interest, and that the extent of that proprietary title is determined by the law of the State. In Michigan, the natural right of the riparian owner extends to the centre of the stream.

question of title of such riparian owner upon the Sault Ste Marie river arose. The United States Supreme Court said:

" A patentee of Government land bordering on the Sault Ste. Marie takes to the centre line * * * *Nor are the rights of riparian owners to the centre affected by the fact that the stream is a boundary.*"

U. S. v. Chandler-Dunbar Co., 209 U. S., 447.

So, the New York Cases.

With reference to the Niagara River, the New York court in 1906 held:—

" 1. The State has no property or ownership in the waters of the Niagara River within the provision of the Constitution in question, although it has dominion over the same and power to regulate the use and diversion thereof and encroachments thereon as navigable waters of the State. (*Sweet v. City of Syracuse*, 129 N. Y. 317, 334; *Waller v. State*, 144 id. 579, 599.)

So far, therefore, as the act may be said to appropriate the water of the river it does not violate the provision of the Constitution in question.

2. The only question remaining is whether the act permitted the construction of conduits, etc., necessary to take the water from the river so as to appropriate any property in the bed of the river in violation of such constitutional provision. The State was in a certain sense the owner of the bed of the river. It held the title, not as a proprietor but as a sovereign, in trust for the public. (*Saunders v. N. Y. C. & H. R. R. Co.*, 144 N. Y. 75, 85.) "

Niagara County I. & W. S. Co. v. College Heights L. Co., 111 App. Div. 770, at p. 772.

In a case involving riparian rights upon the Hudson River, it was held that the riparian rights belonged to the owner of the riparian land,

" as against all but the State, as trustee for the people at large."

People v. Mould, 37 App. Div. 35, 39.

In a later case, upon the Niagara River, the Niagara Fall Hydraulic Power and Manufacturing Company was the owner of certain riparian lands upon the Niagara River, in the city of Niagara Falls, and had constructed and was operating an hydro electric plant, taking and discharging water for water power purposes opposite its riparian land. In addition to whatever rights to such development and beneficial use it had as riparian owner, it acquired by grant from the State of New York the right to use the land in the bed of the river opposite its riparian land, together with the privilege of using the waters for power. Subsequent to 1900 the City Assessor included in the assessment values the company's water rights and the right to take water from the Niagara River for power purposes, making the total assessment \$825,000, of which the larger part was admitted in excess of the proper assessment upon the company's property exclusive of the value of the beneficial use of the bed and waters of the river. The company contested the assessment on the ground that this excess of valuation was an assessment upon its franchise and did not properly cover property rights belonging to the company exclusive of its franchise. This contention was repudiated in the following language:

"The position of the relator is, that its right to take water from the Niagara River is a franchise and as such is not assessable, that the assessment of its property as a value including such water rights, is illegal; that its property for all purposes of assessment, must be treated as though no water right or privilege was attached to and used in connection therewith; that the true basis for assessment is the cost of reproducing the relator's property, exclusive of its water right.

The relator, as a riparian owner and as owner of the lands under the waters of the Niagara River adjacent to its lands from which the water is immediately taken, has the right to the use of the waters of the river for manufacturing purposes, and to divert the same for that purpose, and return them to the river, as it does, after passing over its own lands. *Gould on Waters*, 3d ed., sec. 213; *People v. Tibbetts*, 11 N. Y. 523; *People v. Canal Appraisers*, 33 N. Y. 461; *Clifton Bridge Company v. Paige*, 83 N. Y. 178; *Smith v. Rensselaer*, 92 N. Y. 480; *Groat v. Moak*, 94 N. Y. 115; *Sweet v. Syracuse*, 129 N. Y. 336; subject only to the paramount

of the State to utilize these waters for a public use, without compensation to such riparian owners; **all riparian rights remaining unimpaired until the exercise of such paramount right by the State.** This being so, it appears that the relator, as riparian owner, had the right to take waters from the Niagara River for manufacturing purposes, not interfering thereby with the navigability of the stream, such right being in no sense in the nature of a franchise but a corporeal hereditament, not depending either upon grant or prescription. This subject is fully discussed in Chapter Six of *Gould on Waters*, 3d ed., at page 393, to which reference is made. And this view of the relator's rights is confirmed by the Act of 1896 above quoted, which in terms confirms and defines the *riparian rights* of the relator and is wholly inconsistent with the claim of the relator as to the nature thereof. The fact that the State might destroy relator's riparian rights does not convert such right into a mere franchise. Interference with the relator's rights by the State is a contingency too remote to require serious consideration.

We learn from the map in evidence that Niagara River, at all points affected by the exercise of the relator's rights, is an unnavigable stream and will so remain; and when it is considered that not even the State is at liberty to interfere with the riparian rights of the relator arbitrarily, but that such interference if attempted, must be *in the interest of some substantial right of the State* affected by the exercise of the right of the relator to use the waters of the river, the claim of the relator appears to be wholly unfounded. *People v. Mould*, 37 App. Div. 35.

Having reached the conclusion that the relator, in the use of the waters of the river, is in the enjoyment of its riparian rights acquired before 1896, and confirmed by the act of the Legislature of that date, it becomes unnecessary to examine the other questions argued by both the relator and the defendants. In reaching this conclusion, the cases cited by the relator have been carefully examined, and the arguments in support of its contention fully considered, and no benefit could result from considering the same further in this opinion."

People ex rel. Niagara Falls P. & M. Co. v. Smith, 70 App. Div. 543; *affd.* 175 N. Y. 469.

In a leading New York case, it was said:

"It is a principle recognized in the jurisprudence of every civilized people from the earliest times, that no absolute property can be acquired in flowing water. Like air, light, or the heat of the sun, it has none of the attributes

commonly ascribed to property, and is not the subject of exclusive dominion or control. As Blackstone observe (2 Bl. Com. 18): 'Water is a movable, wandering thing, and must of necessity continue common by the law of nature; so that I can have only a temporary, transient, usufructuary property therein.' While the right to its use, as it flows along in a body, may become a property right, yet the water itself the *corpus* of the stream, never becomes or, in the nature of things, can become the subject of fixed appropriation or exclusive dominion, in the sense that property in the water itself can be acquired, or become the subject of transmission from one to another. Neither sovereign nor subject can acquire anything more than a mere usufructuary right therein, and in this case the state never acquired, or could acquire the ownership of the aggregated drops that comprise the mass of flowing water in the lake and outlet, though it could and did acquire the right to its use."

Sweet v. City of Syracuse, 129 N. Y. 335.

In the case of *Smith v. Rochester*, 92 N. Y. 474, cited in the *Syracuse* case, it was said with reference to a diversion of water from Hemlock Lake, a navigable body of water, which diversion was for the purpose of a public water supply for the city of Rochester:

"The defense proceeds upon the theory that Hemlock Lake being a navigable body of water, as such with its bed belongs to the State, and that the State possessed the consequent right of authorizing the appropriation of the water by its agents or grantees for any public use without regard to the rights of individuals who may have previously acquired proprietary interests therein. * * *

It seemed to be assumed upon the argument that the rights of the State in the waters of Hemlock Lake depend upon the ownership of the soil under its bed, and the question whether the title of riparian owners by the common law included the land to the center of the body of the adjoining navigable body, or was restricted to the water's edge. We do not think this is necessarily so. In conceding the claim for the present let us examine the position. This question has occasioned some divergent opinion in this country and had led to conflicting and apparently irreconcilable decisions in our courts. It would be a vain and useless effort to attempt to harmonize the divergent views on the subject, but we believe that a decision may be evolved from the authorities which will accord with the great weight of judicial opinion in this country, and will preserve such property rights as have been acquired."

have grown up under the authority of diverse decisions. We have arrived at the conclusion that all rights of property to the soil under the waters of Hemlock Lake were acquired by and belong to its riparian owners, while such rights only over its water belong to the State as pertain to sovereignty alone. * * *

It now remains to consider the nature of the rights of property which pertains exclusively to sovereignty and which do not pass to the grantee under a conveyance of the soil bordering upon and adjoining fresh-water navigable lakes and rivers. It may be premised that the mere right of eminent domain always and from necessity resides in the sovereign. It is declared by statute that the State, by virtue of its sovereignty, is deemed to possess the original and ultimate property in and to all lands within the jurisdiction of the State. (3 R. S. (7th ed.) 2162 Sec. 1; *People v. Fulton F. Ins. Co.*, 25 Wend. 219; *People v. Denison*, 17 id. 312; *De Peyster v. Michael*, 6 N. Y. 467; *People v. Van Rensselaer*, 9 id. 319.) This right confers upon the State the title to such property as may be forfeited or escheated, or the title to which for any reason fails, and also the right to resume the ownership and possession of such property as may be required or rendered necessary for public purposes. (*Varick v. Smith*, 5 Paige, 143, 159; *Matter of Albany St.*, 11 Wend. 149; *Morgan v. King*, 35 N. Y. 454). Among other rights which pertain to sovereignty is that of using, regulating and controlling for special purposes the waters of all navigable lakes or streams, whether fresh or salt, and without regard to the ownership of the soil beneath the water. This right is known as the *jus publici* and is deemed to be inalienable. * * *

The rule of common law is concisely stated in the note above referred to as follows: 'Rivers not navigable, that is, fresh rivers of what kind soever, do of common right belong to the owners of the soil adjacent to the extent of their land in length. But salt rivers, where the tide ebbs and flows, belong of common right to the State. That this ownership of the citizen is of the whole river, *viz.*, the soil and the water of the river, except that in his river where boats, rafts, etc., may be floated to market, the public have a right of way or easement.'

It may, however, be stated in passing, that it is generally conceded that this doctrine is inapplicable to the vast fresh water lakes or inland seas of this country or the streams forming the boundary line of States. (*Canal Commissioners v. People*, 5 Wend. 446; *Tibbets Case*, *supra*.) Whatever conclusion may, therefore, be reached with reference to the ownership of the bed of Hemlock lake, it still remains that the State had certain rights in its waters and so far as the same were alienable the defendant has succeeded to them. It may,

also, be affirmed that if the term 'navigable water' as used in England was ever there for any purpose wholly restricted to the waters which were affected by the ebb and flow of the tide, it has by common consent a more enlarged significance in this country and is here held to mean all such waters as are actually navigable, whether fresh or salt. When it is considered that the rights and interests of the public, such as fishing, ferrying and transportation, are preserved in navigable waters by the inherent and inalienable attributes of the sovereign, it would seem to follow that the controversies which have arisen over the nominal ownership of the soil under such waters have been magnified beyond the real interests involved. This becomes still more apparent when we consider the character and extent of the property which may in the nature of things be acquired and enjoyed in running water. '*Aqua curret debet currere.*' Neither sovereign nor subject can have any greater than a usufructuary right therein, and even this is subject to the temporary enjoyment of the riparian proprietors over whose lands it passes while on its way to its final destination, undiverted and diminished, save for domestic or manufacturing purposes. (3 Kent's Com. 439; *Tyler v. Wilkinson*, 4 Mason, 3.) Thus all land covered by running water is subject to a servitude, either dominant or servient, and all interest in water is simply an easement, incapable of fixed appropriation or conversion. (1 Stephens' Blackst. 169; *Wheaton on Easements*, 200)."

Then after an examination of the earlier decisions the court said:

"These cases, therefore, cannot be considered as authoritative upon the question here presented. We are, therefore, of the opinion not only that the State had no right to divert to the city of Rochester the use of the waters of Hemlock lake, to the detriment of the riparian owners upon the banks of the stream formed by its outlet, but that their rights were recognized and provided for by the act under which the defendant assumes to justify its acts."

Smith v. Rochester, 92 N. Y. 463.

And, again, in another case pertaining to riparian rights upon navigable streams, the New York court said:

"The owner of land bounded upon a navigable stream has property rights therein, i.e., the right of access to the navigable part of the stream and the right to construct a landing or wharf, and where a railroad company, :

acting under legislative authority, has constructed its road across the water front of such owner and thus has deprived him of access to the navigable part of the stream, unless he has granted the right or it has been obtained by eminent domain, he is entitled to recover his damages.

It seems, however, this rule may not be extended so as to interfere with the right of the state to improve the navigation of the river, or with the power of congress to regulate commerce."

Rumsey et al. v. The New York and New England Railroad Company, 133 N. Y. at page 79.

If there has ever been any doubt that the New York law excluded any element of proprietary interest in the State in the bed of navigable waters, or that all such proprietary title and right of usufruct belonged to the riparian owner, such doubt was finally set at rest by the recent case of *Brookhaven v. Smith*, 188 N. Y. 74. After a most elaborate discussion, in which F. R. Coudert, Esq., presented an argument against the doctrine of any proprietary title or right in the sovereign or State, the New York court held that the common law doctrine of *jus privatum* in the State has no place in the jurisprudence of this country. Said the court:

The adoption by the people of this state of such parts of the Common Law as were in force on the 20th day of April, 1777, does not compel us to incorporate into our system of jurisprudence principles which are inapplicable to our circumstances and which are inconsistent with our notions of what a just consideration of those circumstances demands. The Common Law of England, upon the subject of the rights of riparian owners, has but an imperfect application to the situation in a state like this, with its numerous large navigable bodies of waters, and bays, rivers and inland lakes (citing cases). To borrow the language of Judge Bronson in his opinion in *Starr v. Chile* (20 Wend. 149), 'no doctrine is better settled than that such portions of the law of England as are not adapted to our conditions form no part of the law of this state.'"

Brookhaven v. Smith, 188 N. Y. 74. See also "Riparian Rights and *Stare Decisis*." by F. R. Coudert, Columbia Law Review, March, 1909.

As shown above, the sovereign rights, whether of the State or of the federal government, are based and their extent measured as such sovereign rights of control are based and measured in the case of highways. As was said by the Minnesota Supreme Court:

“Riparian owners on navigable waters hold their lands subordinate to the public use of such waters, if such use is reasonably exercised, precisely as do the owners of lands abutting on any other highway.”

Doucette v. Little Falls Co., 71 Minn. 206.

So, the United States Supreme Court, quoting and approving Chancellor Kent, says:

“Under the common law, the public easement of navigation bears a perfect resemblance to public highways.”

Grand Rapids Co. v. Butler, 159 U. S. 87.

So, again, the Minnesota Supreme Court declares that a riparian owner of lands abutting on the Mississippi River holds them subordinate to the sovereign rights in “a legally declared public highway.”

Rippe v. Railway Co., 23 Minn. 18, 23.

The sovereign rights of the State and of the federal government are so limited and so far from proprietary in their nature that they cannot be leased or alienated:

“The rights of the State in navigable waters and river beds are sovereign, and not proprietary, and are held in trust for the public as a highway, and are incapable of alienation.”

Bradshaw v. Mill Co., 52 Minn. 59:

“The sovereign is trustee for the public and the navigable waters is inalienable” (Kent’s Commentaries 427) * * *

“It is true that navigable waters and their beds are incapable of absolute alienation.”

Miller v. Mendenhall, 43 Minn. 95, 101, 104.

Again:

"Neither the State nor the municipality within which the property is situated has any proprietary interest in it which either of them can sell or divert to any use inconsistent with the purposes of the dedication or grant. The State holds such land merely in its sovereign capacity, in trust for the public and for the purposes for which it was dedicated. If the Legislature should attempt to divert it, or to authorize its diversion, the property would not revert to the donor or the public easement be extinguished. The act of the Legislature would be a mere nullity."

City of St. Paul v. Railway Co., 63 Minn. 330.

And again:

"But, as the State's right or title to such property is only an easement which it holds in trust for a public use, the Legislature cannot divert it or subject it to an inconsistent use of a private nature, nor can it authorize municipal authorities so to divert it. * * * Any legislation authorizing such action would be clearly unconstitutional and void."

Sanborn v. Van Dyne, 90 Minn. 223.

On the other hand, the riparian rights in navigable streams appurtenant to riparian lands are separable and leases or grants to the title and right of usufruct may be made by the riparian owner and proprietor:

"It is the settled doctrine of this court that the right of the riparian proprietor upon navigable waters, to reclaim, improve and occupy submerged land out to the line of navigability may be separated from the shore land; and be transferred to and enjoyed by persons having no interest in the original shore."

Gilbert v. Emerson, 55 Minn. 254.

And in the *Hanford* case above quoted from at length, after defining riparian rights, the court said:

"Those rights partake largely of the ordinary qualities of private property, which is in general divisible and transferable by the proprietor."

Hanford v. Railway Co., 43 Minn. 104.

At this point I wish to call particular attention to the fact that there has been much confusion and there is still much confusion caused by the varying holdings in different states as to the extent of the naked fee in the bed of navigable streams held by the riparian owner, and to emphasize the rule that these variations do not make any difference as to what is really the property right of the riparian owner to the beneficial use of the bed and water for water power.

III.

THE PROPERTY RIGHTS OF THE RIPARIAN OWNER ARE NO MORE AND NO LESS IN STATES WHERE TITLE TO THE BED IS RETAINED IN THE SOVEREIGN THAN IT IS WHERE THAT TITLE BELONGS TO THE RIPARIAN OWNER.

It has already been shown that, even in states where the naked fee of the riparian owner stops at high water mark, he has a property right to the use of the bed and the waters of the stream for power purposes, and that such property right is an easement belonging to him; in the same states, although the naked title is held by the State, it is a limited holding for a specific purpose,—a holding in a sovereign capacity, in trust for public use for navigation. It has also appeared that the limits of the public right so defined mark the beginning of the private riparian right. Where one begins, the other leaves off and *vice versa*. Now, the public right is just as great, and greater, in States where the naked fee passes to the center of the stream and belongs to the riparian owner. In both classes of States, when there is once fixed the extent of the sovereign right of control of the State for the specific purpose of navigation, and it is just as extensive in one class of States as in the other, we have the limits fixed of the private right of riparian owner.

Therefore, so far as affecting private riparian rights are concerned, the varying distinctions in the different States are

extent or nature of the bare title of the bed are merely speculative. As the Minnesota court said, the question whether the fee is in the State or in the riparian owner,

" may be a question of speculative interest, but it is not one of any practical importance. If the fee be in the riparian owner; yet, of course, it must be a qualified fee; that is, subject to the paramount right of public navigation. But, if it be in the State, the riparian owner still has, subject to the same public right, the exclusive right of possession and an entire beneficial interest. Hence, the determination of the question one way or the other would not affect the value of the riparian owner's interest in the property."

Union Depot Co. v. Brunswick, 31 Minn. 297.

Again the same court, after fully defining the property rights belonging to the riparian owner in the bed of the stream, says:

" With these rights conceded to the riparian owner, the question whether the fee of the bed of the Lake while it remains covered with water is in him or in the State, is more speculative than practical."

Lamprey v. State, 52 Minn. 181.

In the *Hanford* case already quoted from, the Minnesota Supreme Court said:

" In view of the character of riparian rights, it is immaterial whether the company (the riparian owner) got the fee or only the exclusive right to use the land."

Hanford v. Railway Co., 43 Minn. 104, 109.

And, construing the holding of the United States Supreme Court in the case of *Yates v. Milwaukee*, 10 Wall. 497, the court, referring to the rights of user belonging to the riparian owner as property rights, said:

" The court seems to have regarded it as immaterial whether Yates' grantor owned the fee beyond the shore line or not."

Hanford v. Railway Co., 43 Minn. 104, 118.

So Judge Morris, of the Federal District Court, referring to riparian rights upon the Mississippi River, at the city of Minne-

apolis, and discussing certain early Minnesota decisions rendered before the law as to the extent of riparian ownership in the bed had been fixed in that State, said, as already quoted above:

"A careful examination of the cases will show that the same result would have been reached in each one of the cases except the one which was subsequently overruled, by applying that rule; and indeed that the conclusion reached would have been obvious from a mere statement of the facts, and that thus the many long and sometimes seemingly inconsistent discussions, and the distinctions which have been attempted to be drawn, would have been avoided."

Hobart v. Hall and City of Minneapolis, 174 Fed. 433; and *Hall and City of Minneapolis v. Hobart*, (Apr. 8, 1911), 186 F. 426; 108 C. C. A. 348.

The same rule is manifestly the New York rule, where the unqualified fee of the riparian owner stops at high water mark; for, as already shown, it is there held that the rights of a beneficial user of the bed and waters of a navigable stream, in the case of an international boundary stream, are definite property rights belonging to the riparian owner and are only assessable as such and as part of the riparian land.

People ex rel. Niagara Co. v. Smith, 111 App. Div. 770. Cf. *State v. Mill Co.*, 26 Minn. 229.

So, in States where the naked fee in the bed is held to belong to the riparian owner, subject to the sovereign power of Congress for navigation. It is well settled law in Wisconsin that the riparian owner's fee goes to the center of the stream.

Chandos v. Mack, 77 Wis. 573.

Sliter v. Carpenter, 123 Wis. 578.

Franzini v. Leyland, 120 Wis. 72.

In a recent Wisconsin case, the Supreme Court, referring to the fact that in Wisconsin the State law and policy has passed the naked fee to the riparian owner, and, discussing the extent of riparian rights in such a case as compared with those in a jurisdiction where the riparian fee has been limited to high water mark, says:

"So the state now owns the beds of all navigable streams between the lines of ordinary high water mark on

shore, except in so far as the rule of property, established by state policy, has taken it away. If not taken away at all, no question as to the right of public fishing in such rivers would be raised, we may safely assume as before stated. If not taken away, except subject to all the rights, in common, characteristic of public waters, then, as said by Dixon, Ch. J., in *Wisconsin River Improvement Co. v. Lyons*, 30 Wis. 61, *it is quite immaterial whether the riparian owner's title be considered to extend to the center of the stream or stop at the margin*, for his situation, and that of the public, in such circumstances, would be the same as in case of the private ownership of lands in a public highway. While it is said that the title to such lands extends to the center of the highway, that does not in any way interfere with the public use of the way, and so long as such public use is not interfered with, it is really immaterial where the legal title rests. It being understood all the time that the legal title is subject to the public use, its location with the adjacent owner, necessarily, is unimportant. So it may be said that the title of a riparian proprietor, to lands bordering on a navigable stream, extends to the thread of the stream, perfectly consistent with the public character of the stream for navigation and fishing, if the title to the bed of the stream passed to such proprietor subject to such public use."

Willow River Club v. Wade, 100 Wis. 86; 42 L. R. A. 305, 329.

There is, therefore, no further reason for confusion or for any assumption of difference as to the extent and nature of riparian property rights to the beneficial use of the beds and waters of navigable streams for water power purposes, so far as any such difference is to be based upon the varying holdings of the different States as to the limit of the fee of the riparian owner. The riparian rights are in all cases coextensive. They include all the proprietary rights and private property rights just the same as on small unnavigable streams, with the only exception that upon navigable streams those riparian rights are subject to the sovereign power of control by the State or the federal government for the public use of navigation.

Certain Early Exceptional Cases.

In passing, it is well perhaps to assist in preventing confusion on account of certain early and peculiar cases, which are exceptions to the general rule excluding the State from any proprietary

interest; but those exceptions have been by all recent decisions marked as exceptions or overruled. They are, however, often cited, wrongfully, in opposition to the propositions which are here presented.

In Pennsylvania the old rule of "proprietary" interests in the state to the bed and to the water itself in tidal waters, has in effect been applied to navigable fresh waters, and the riparian owner on such waters has never been recognized as having the riparian rights which have always been the rule of property in other states. This is exceptional and arises from the peculiar colonial grants under which the state was settled.

Randell v. Del. and Raritan Canal Co., 14 How. 80; 1 Wall, Jr. 275.

Monongahela Nav. Co. vs. Coons, 6 W. & S. 101.

Shrunk v. Schuylkill Nav. Co. 14 S. & R. 71.

Canal Co. v. Wright, 9 W. & S. 9.

McKeen v. Canal Co. 49 Pa. St. 424.

Philadelphia v. Collins, 68 Pa. St. 106.

Philadelphia v. Gilmartin, 71 Pa. St. 140.

Fulmer v. Williams, 122 Pa. St. 191.

Williams v. Fulmer, 151 Pa. St. 405.

Again in New York, in certain cases upon the Mohawk and Hudson rivers, on account of the early grants by which the State of New York acquired jurisdiction over those rivers, a certain interest of a proprietary nature has been said to belong to the State in addition to its general rights as sovereign. And on these streams and for these particular reasons many of the early New York cases recognize as remaining in the State a right to divert, and to authorize a diversion of, the waters of these streams without providing for compensation for damages to lower proprietors. If authority at all, these cases must be considered simply as decided under an exceptional state of facts. But they have been repudiated by the highest court of New York, as shown by many recent decisions. In one of these decisions (the Rumsey case) the New York Court of Appeals says, that since the time of these early decisions these questions

of riparian rights and of the interest of the State in the control of navigable waters, "have been elaborately examined, discussed and settled in all the courts", and it is clearly shown that the Courts of New York do not recognize these early cases as authority even as to the rights of riparian owners upon the Mohawk and Hudson rivers, to which streams those cases were confined. The general rule in New York both as to the rights of riparian owners and as to the extent of the control which the State has in navigable waters is now the same as in other states.

Gould v. R. R. Co., 6 N. Y. 522.

People v. Tibbets, 19 N. Y. 523.

People v. Canal Appraisers, 33 N. Y. 461.

Crill v. City of Rome, 47 How. Rep. 398.

But see later decisions:

Smith v. Rochester, 92 N. Y. 463.

Rumsey v. R. R. 133 N. Y. 79.

Brookhaven v. Smith, 188 N. Y. 80.

In Massachusetts there is an exceptional line of decisions which are based also upon peculiar grants by which the State acquired jurisdiction over the territory and the waters in question. The right of the State in the "great ponds" of Massachusetts has been a fruitful source of discussion and litigation. By virtue of a colonial ordinance of 1647 and the early grants referred to, in Massachusetts, the State is held to have a proprietary title and interest in the great ponds of the state, which is similar to the interest obtained by an individual grantee, like that, for instance, of the grantees of Humphrey's pond, situated in Lymfield and Danvers. This leaves in the State a peculiar jurisdiction and power over those great ponds. It is something entirely different and of much broader scope than the sovereign interest or power of control which is reserved to other States in their navigable waters for the purpose of navigation; and has arisen in an entirely different way. Every riparian owner upon a great pond, or upon a stream issuing from a great pond, in the State of Massachusetts takes and uses the water for power or other purposes, subject to this extraordinary power and title

which has been retained in the State. The state, then, may authorize a diversion of the waters from such a pond for the purpose of public water supply, and may use its discretion as to whether or not, it will require the payment of compensation for damages to lower proprietors. So, in a decision rendered in 1883, it was held that the act of the State Legislature of 1871 authorized the city of Fall River to take water from Watuppa pond for public supply; but as the act provided that compensation should be made for damages to lower mill owners, it was held that such compensation must be made. Under this act the city of Fall River paid for the right to take one and one-half million gallons a day; but to supply an increased demand, the city obtained passage of another act in 1886, which authorized it to make further abstraction or diversion of the waters of this pond, and in this act it was expressly provided that the city should not be compelled to pay compensation for damages to the lower proprietors. The Supreme Court of Massachusetts held, by majority decision, that, on account of this extraordinary proprietary right which had been reserved to the State it has the power through its Legislature to authorize a diversion without providing for compensation. This latter decision, in many places, is spoken of as an overruling of decision made five years before; but a careful consideration of it shows that the difference in the result was due solely to the fact that in one act of the Legislature the State had made compensation as a condition for the taking, and in the later act it had expressly provided that compensation need not be made. The only reason why the court claimed for the State the power to use its discretion in a matter of requiring compensation was the fact, that by virtue of the early colonial grants and the ordinance of 1647, it has a proprietary interest in waters of the great ponds, which other States, except in those instances which we have named, do not have; and this is the only ground on which any such discretion could be based. It cannot, as the Court holds, be based on any distinction between riparian rights on lakes and ponds and those on running streams.

Watuppa Reservoir Co. v. Fall River, 147 Mass. 548.

Watuppa Reservoir Co. v. Fall River, 134 Mass. 267.

3 *Harvard Law Review*, 1.

Lamprey v. State, 52 Minn. 181,

The same exceptions as to certain great ponds applies in Maine. But, with reference to streams, navigable or unnavigable, the riparian rights are the same in both states as those shown to exist in New York and Minnesota.

Drake v. Hamilton Woolen Co., 99 Mass. 574.

Gould v. Boston Duck Co., 13 Gray, 450.

Elliott v. Railroad Co., 10 Cush., 193.

Davis v. Getchell, 50 Maine, 602.

Except as to navigable streams in Pennsylvania, and as to certain great ponds in Massachusetts and Maine, the claim of any proprietary interest in the bed of such streams in the sovereign power, State or Federal, has been repudiated by all States, and the law has been settled that the riparian property rights include all rights to title and beneficial use not inconsistent with the public use of navigation,—in other words, the rule is the same as has been shown to exist in Minnesota and New York.

Alabama: *Mobile Transp. Co. v. Mobile*, 187 U.S. 479, affirming 129 Fed. 298, 13 L.R.A. (New Series) 352 (distinguishing between riparian rights on tidal and non-tidal waters).

Connecticut: *Holyoke Water P. Co. v. Conn. River Co.*, 52 Conn. 570.

Delaware: *Delaney v. Boston*, 2 Harr. 489.

Florida: *Ferry Pass, etc., Assn. v. White's River, etc. Assn.*, (1909), 48 So. 643; *Broward v. Nabry* (1909), 50 So. 826.

Georgia: *Hendrick v. Cook*, 4 Ga. 241; *Jones v. Water Lot Co.*, 18 Ga. 539.

Illinois: *Ill. Cent. R. Co. v. Illinois* (Ill. Law), 146 U.S. 387, 435, 452; *Ill. Cent. R. Co. v. Chicago* (Ill. Law), 176 U.S. 646; *People v. Economy Light & Power Co.*, 241 Ill. 290.

Indiana: *Martin v. City of Evansville*, 32 Ind. 85; *Sherlock v. Bainbridge*, 41 Ind. 35.

Kentucky: *Ky. Lumber Co. v. Green*, 87 Ky. 257; *Wilson v. Watson*, (June 1911) 138 S. W. 283.

Louisiana: *Board of Commissioners v. Glassel*, 45 So. 370.
 Maine: *Pearson v. Rolfe*, 76 Me. 385; *Wilson v. Harrisberg*, (Me. 1910), 77 Atlantic 787.
 Maryland: *U. S. v. Great Falls Mfg. Co.*, 112 U. S. 645; *Great Falls Mfg. Co. v. Atty. General*, 124 U. S. 581; *Mayor v. Appold*, 42 Md. 442.
 Michigan: *Ryan v. Brown*, 18 Mich. 196; *Bay City Gas Light Co. v. Industrial Works*, 28 Mich. 182; *Dumont v. Kellogg*, 29 Mich. 420; *Hoxsie v. Hoxsie*, 38 Mich. 77.
 Mississippi: *Steamboat Magnolia v. Marshall*, 39 Miss. 109; *New Orleans, etc., R. Co. v. Frederic*, 46 Miss. 1.
 Missouri: *Meyers v. St. Louis*, 8 Mo. App. 266; *State ex re., v. Longfellow*, 169 Mo. 109, 129.
 New Hampshire: *Hayes v. Waldron*, 44 N. H. 580; *Norway Plains Co. v. Bradley*, 52 N. H. 86.
 New Jersey: *Atty. Gen. v. R. Co.*, 12 C. E. Green 1 and 631.
 North Carolina: *Roanoke Rapids P. Co. v. Roanoke N. & W. P. Co.*, 68 S. E. 190.
 Ohio: *Walker v. Board of Public Works*, 16 Ohio 540.
 Rhode Island: *Rhode Island Motor Co. v. City of Providence*, 55 Atl. 696.
 South Carolina: *Heyward v. Farmers Co.*, 42 S. C. 138.
 Tennessee: *Goodwin v. Thompson*, 15 Lea 209; *State v. Pulp Co.*, 119 Tenn. 47.
 Vermont: *Miller v. Mann*, 55 Vt. 475.
 Virginia: *Richardson v. U. S.*, 100 Fed. 714; *Taylor v. Commonwealth*, 102 Va. 759.
 Wisconsin: *Kaukauna W. P. Co. v. Green Bay Co.* (Wis. Law), 142 U. S. 254; *Village of Pawaukee v. Savoy*, 103 Wis. 271; *Franzini v. Layland*, 120 Wis. 72; *State, ex rel Wausau St. Ry. Co. v. Bancroft, Atty. Gen., et al.* (decided Jan. 30, 1912), declaring invalid the Wisconsin statute of 1911 attempting to confiscate private riparian rights, 134 N. W. Rep. 330.

IV.

THE LEGAL AND PROPER SCOPE OF FEDERAL LEGISLATION.

In the foregoing the following propositions have been established as the law in all the States recognizing the law of riparian rights, (which, as we have shown, include all States except certain far Western States, where the common law of riparian rights does not prevail,) and also with the peculiar exceptions noted as

to certain streams in Pennsylvania and the big ponds of Massachusetts and Maine:

1. The only power of control belonging to the Federal Government is under the Commerce Clause of the Constitution, to regulate navigable streams as highways, that is, for the purpose of navigation; and this power excludes every proprietary element, and is purely a limited sovereign power of control for a specific purpose.

2. All other rights, sovereign or proprietary, have passed to the States or to individual owners. But the State has no proprietary interest in the bed or the waters. Its interest is a holding as a sovereign, in trust, for a specified public purpose, primarily for navigation.

3. All proprietary elements of title or of rights of user of the bed and waters belong to the riparian owner as a part of the riparian estate; they are vested property rights, and subject only to the exercise of the limited power of sovereign control, reserved to the State and the Federal government for a specific purpose,—that is, to use and regulate the use of the river for navigation. These private rights of the riparian owner include the right to *all* the beneficial use of the natural water powers in the stream opposite his riparian land, including the right to develop and operate, and to enjoy the revenues from such power.

4. It matters not that by one State law the riparian fee has been limited to high water mark, or has been by another State law extended to the centre of the street:—the paramount right of the sovereign being limited to a specific use and purpose, and all of the rights and beneficial use belonging to the riparian, the vested property rights of the riparian are the same in all cases.

5. Nor are the riparian rights any different in the case of a stream which happens to be a boundary stream, whether such boundary is international or State.

Such being the reserved character and extent of the rights of the sovereign upon the one side, and the riparian owner upon the other, the question now before your Honorable Commission is as to what may be legally the scope of Federal legislation, insofar as it shall affect the rights or interests of riparian owners upon highway streams. What limitations or restrictions may and shall be imposed by statute?

This question has been much discussed, and with great difference of opinion, as shown by the various river and harbor statutes, and by the records in the Congress, a review of which will throw light upon the present situation.

1. The Present Status of the Question—the Prohibition against Dams and Bridges, and the Necessity and Terms of Federal Consent:—

Prior to 1899, the Federal government had apparently always recognized the law of riparian rights, extending those rights to the full extent, as stated in the foregoing cases, “ which is not inconsistent with public right ”—meaning by the public right, the right of the Federal Government to protect and improve streams for commerce, and the right of the State to protect them for navigation and allied public uses. The law then was, and still is, that, in exercising his rights of beneficial use in the water powers of a navigable stream, a riparian owner held and exercised such rights, including the right of operation, always subject to his obligation to yield or to give way at any time to the full extent that any diminution of his advantages might be reasonably necessary for the actual exercise by the sovereign of that power which is always reserved to it—to regulate for navigation.

If the riparian built a dam in a navigable stream which actually interfered with the navigation of the river for commercial purposes, it was an illegal structure. If he built his dam in a navigable stream in such a way as not to interfere with the actual navigation of the river for commercial purposes, he was within his right and was protected by every law of property, and could not be disturbed *until, and then only to the extent*, that the actual improvement of the river for navigation should require his giving way, in part or in whole, to that paramount purpose. His right and title to the beneficial use of the water powers gave him a right to develop and obtain the advantages of such use, to the full extent, not “ inconsistent ” with the public right. *Every advantage which could be saved to him, consistently with the exercise of that public right, belonged to him.* Not only, *to the extent* that improvements made in navigation should be made by the Government for the purpose of rendering artificially navigable that part of the river where his dams were situated, and which naturally at that point are not navigable, did he have the right to the full beneficial use of the water powers; but he also had the

same property right to the full beneficial use *up to the time and until* the improvement in navigation should necessarily interfere with that right or diminish his beneficial use. No statute was deemed necessary, and none was made, which would at any time, or in any degree, deprive him of such beneficial use, except to the extent and not until the time that the Government should, by navigation improvements, necessarily diminish such beneficial use. These property rights were recognized, not only by the law, but by Federal statutes. It was not necessary, nor is it reasonably consistent with his property rights, that the Government should step in, and, in advance of any improvement actually intended, assert by statute the superiority of the Government's rights and the inferiority of the rights of the riparian. These respective rights were established by law, for the rule had been and is settled that, so far as the rights of user of the bed of a stream are concerned, those rights are all subject to the exercise at any time of Government control for navigation. If a subsequent improvement by the Government for navigation shall be made, then, so far as such improvement shall necessarily interfere with his right of user, whether already exercised or not, such rights could be diminished, impaired or taken, without compensation; although compensation must be made if there is injury to his absolute property,—for instance, to his riparian tract itself which he never held except by an unqualified fee.

These principles were deduced by the U. S. Supreme Court from a long review of the cases, and summarizing, the Court said:

“ Do the principles announced in the above case require us to hold, in the present case, that the making of the alterations of its bridge specified in the order of the Secretary of War will be a taking of the property of the Bridge Company for public use? We think not. Unless there be a taking, within the meaning of the Constitution, no obligation arises upon the United States to make compensation for the cost to be incurred in making such alterations. The damage that will accrue to the Bridge Company, as the result of compliance with the Secretary's order, must, in such case, be deemed incidental to the exercise by the Government of

its power to regulate commerce among the States, which includes, as we have seen, the power to secure free navigation upon the waterways of the United States against unreasonable obstructions. There are no circumstances connected with the original construction of the bridge, or with its maintenance since, which so tie the hands of the Government that it cannot exert its full power to protect the freedom of navigation against obstructions. Although the bridge, when erected under the authority of a Pennsylvania charter, may have been a lawful structure, and although it may not have been an unreasonable obstruction to commerce and navigation *as then carried on*, it must be taken, under the cases cited, and upon principle, not only that the company when exerting the power conferred upon it by the State, did so with knowledge of the paramount authority of Congress to regulate commerce among the States, but that it erected the bridge subject to the possibility that Congress might, at some future time, when the public interest demanded, exert its power by appropriate legislation to protect navigation against unreasonable obstructions. Even if the bridge, in its original form, was an unreasonable obstruction to navigation, the mere failure of the United States, at the time, to intervene by its officers or by legislation and prevent its erection, could not create an obligation on the part of the Government to make compensation to the company if, at a subsequent time, and for public reasons, Congress should forbid the maintenance of bridges that had become unreasonable obstructions to navigation. It is for Congress to determine when it will exert its power to regulate interstate commerce. Its mere silence or inaction when individuals or corporations, under the authority of a State, place unreasonable obstructions in the waterways of the United States, cannot have the effect to cast upon the Government an obligation not to exert its constitutional power to regulate interstate commerce except subject to the condition that compensation be made or secured to the individuals or corporation who may be incidentally affected by the exercise of such power. The principle for which the Bridge Company contends would seriously impair the exercise of the beneficent power of the Government to secure the free and unobstructed navigation of the waterways of the United States. We cannot give our assent to that principle. In conformity with the adjudged cases, and in order that the constitutional power of Congress may have full operation, we must adjudge that Congress has power to protect navigation on all waterways of the United States against unreasonable obstructions, even those created under the sanction of a State, and that an order to so alter a bridge over a waterway of the United States that it will cease to be an unreasonable obstruction to navigation will

not amount to a taking of private property for public use for which compensation need be made."

Union Bridge Co. v. United States, 204 U. S., 399-401.

Here let me again call attention to the fact of the limited nature of the power of Congress over navigable streams, even for navigation:—The power of Congress over highway streams is not plenary or unlimited. It is limited to the purpose of the necessary or reasonable protection of commerce, which in this case means the necessary or reasonable protection of navigation. It does not extend to the power to make any arbitrary restrictions, but only those which are reasonably necessary. More than that, the exercises of that power must be consistent with the reasonable exercise of other rights, whether public or private, to the use of the stream. Its power, then, is limited to the prevention of *unreasonable* interference with navigation. Any slight or reasonable interference, not necessarily or presently obstructive to navigation, caused by the exercise of other conflicting rights or interests, is not necessarily within the authority of Congress to prevent. The fact that the uses of the river for navigation and for other purposes to which it is naturally adapted are to some degree conflicting, and that it is impossible to have exercised each and all of these rights to their fullest extent, does not give the right to Congress to exercise its power of regulation for navigation disregard of these other and conflicting rights. On the contrary, the power of Congress must be exercised with due regard, that is with reasonable regard, to such conflicting rights. It cannot prevent each and every interference with navigation, independent of the question of the extent or reasonableness, under all the circumstances, of such interference. As defined in the Union Bridge case above cited, the power of Congress is limited to the "power to protect navigation on all waterways of the United States against *unreasonable* obstructions." As in all cases of conflicting, or possibly conflicting, rights of user of the same stream, the principles of the rule of "reasonable use" must be observed. While "paramount" in the proper sense of the word, the power

of control by Congress is far from being unlimited. It must be so exercised, if reasonably possible, that other rights of user shall not be destroyed or impaired; and if such impairment is reasonably necessary in order to protect against unreasonable interference with navigation, then such impairment must be made only to the extent that it is reasonably necessary, and so as to leave feasible, so far as reasonably possible, the exercise also of other rights ordinarily in conflict with an unlimited exercise of the right of navigation.

Not only is this the doctrine of the Federal Supreme Court, but of the State courts. Speaking of the relation between the riparian private right of power development and the public right of navigation, the Wisconsin Supreme Court quotes with approval the words of the Michigan Supreme Court as follows:

“ As has been said by Judge Cooley, in *Middleton v. Flat River B. Co.*, 27 Mich. 533, ‘ Each right should be enjoyed with due regard to the existence and protection of the other.’ Or, as he says in *Buchanan v. Grand River Co.*, 48 Mich. 364, 367: ‘ Each right modifies the other, and may, perhaps, render it less valuable; but this fact, if the enjoyment of the right is in itself reasonable and considerate, can furnish no ground for complaint.’ ”

State, ex rel Wausau St. Ry. Co., v. Bancroft, Atty. Gen.
(Jan. 30, 1912), 134 N. W. Rep. 330, 340.

So also:

Crookston W. W. P. & L. Co. v. Sprague, 91 Minn. 461.

It was evidently with due regard to the property law thus long established, that, prior to 1899, there was no Federal prohibition against the building of dams which did not actually interfere with navigation. The prohibition was against the construction and maintenance of dams in navigable rivers,

“ in such manner as shall obstruct or hinder navigation, commerce or anchorage of said waters ”.

and the construction of dams in places where they might interfere with actual navigation were prohibited,

“ until the location and plan of such bridge or other works had been submitted to and approved by the Secretary of War ”.

§7, Act of Sept. 19, 1890; 20 St. L. 426; 1 Suppl. Rev. L. U. S. 80.

Act of July 13, 1892; 27 St. L. 88.

In 1899 the terms of this prohibition were enlarged, and every dam on or across a navigable stream, whether actually navigable at the point in question or not, and independently of the fact whether such structure interfered with actual navigation, was prohibited,

“ until the consent of Congress to the building of such structure shall have been obtained, and until ”

the plans for the same are approved by the Chief of Engineers and the Secretary of War.

§9 Act of Mar. 3, 1899, 30 St. L. 1121.

In 1906, further restrictions were added, and in addition to the provisions of the 1899 statute, it was provided that plans for the proposed structure should be submitted to and approved by the Chief of Engineers and the Secretary of War, and

“ in approving said plans and location, such conditions and stipulations may be imposed as the Chief of Engineers and the Secretary of War may deem necessary to protect the present and future interests of the United States, which may include conditions that such persons shall ”—

construct in such dam locks and gates in the interests of navigation, and furnish power to the United States to operate such locks, etc.

Act of June 21, 1906, 34 St. L. 386.

In view of the decision of the U. S. Supreme Court last above cited, in the Union Bridge case, there could have been no necessity for the change in the terms of the statutes as made in 1899 and in 1906, so far as protecting the interests of the United States was concerned, for under the law of property, as announced in that case, it was open to the United States at any

time, when and so far as reasonably necessary for navigation improvements, to abate, diminish, or in any way injure the beneficial use which any riparian owner was making of the bed and waters of a river. It was absurd that locks or gates for navigation purposes should be maintained in a dam at a point in the river where, if improved for navigation at all, it would not be for a long time to come. The legal effect and object of these statutes was by statutory enactment, in advance, to bring to and impress upon the mind of the riparian owner the rule that his exercise of his riparian rights in such streams was at all times subject to be diminished or destroyed whenever the stream should be actually improved for navigation. For the same purpose were the provisions for the consent of the Congress, where such consent was required after 1899, as to dams which did not actually interfere with navigation. In such Acts expressing consent the Congress could, and actually did, include in terms the obligations which the law of property already imposed upon the riparian owner, by which his structures were expressly made subject to the improvement of the river for navigation. They also gave the opportunity, in providing for the submission of plans for the approval of the Secretary of War, to obviate, in advance, unnecessary damage to the riparian owner, by reason of prospective or possible improvements for navigation, by allowing the Government, through that official, to cooperate with the riparian owner in his plan of construction, so that, as nearly as possible, they might conform to the future navigation improvements, and thus minimize the possible changes or damage to him which might be necessary in case of such improvement. It could never be held, as a matter of law, that onerous restrictions or regulations for the financial benefit of the Government or of the public, could be imposed upon the riparian owner as a condition, in the nature of a tribute, without the fulfilment of which the consent, either of the Congress or of the Secretary of War, would be withheld.

This leads us to a consideration of the legal and proper restrictions which may be imposed by the Federal Government

upon riparian owners, in connection with their use of the beds and waters of the navigable streams, for water power purposes.

2. The Government Right is one of Limited Control for Navigation Purposes, and does not Include any Right to Impose a Toll or Tribute, or any Restriction not Reasonably Necessary to the Improvement, by the Government, of the River, for Navigation:—

This question is, perhaps, one of the concrete questions now before your Honorable Commission. In the light of what has been shown above, it is manifest that the property right to the beneficial use of the water powers is a private property right belonging to the riparian owner. It is also manifest that in such water powers, whether developed or undeveloped, the Government has no interest, nor can it claim any interest in the beneficial use which is proprietary in its nature. It cannot take such interest, nor the proceeds of such interest, from the riparian owner, either for its own benefit, or for the benefit of the State. It has the paramount right to improve the river for navigation purposes. **To this paramount right, the right of the riparian must "yield" but it cannot be made to "contribute" towards it.**

It is because of the failure to recognize the relative legal rights of the Government upon the one side, and of the riparian upon the other, that this distinction between *yielding* to a paramount right, and *contributing* to it, has not been sufficiently observed. It goes without saying that neither the Government nor an individual can legally accomplish that indirectly, which would be illegal by direct action.

It is no answer to this proposition, then, to say, "Well, what are you going to do, you, the riparian owner. You have no practicable remedy". This has been too much the attitude of some of the officials of the United States Government, as well as of those who are urging upon the Congress confiscatory measures against the riparian owner, under the plea of conserving to the nation its natural resources.

The rule is established, however, that requirements and re-

strictions exercised under the power of Federal control for navigation must be confined to those which are necessary and consistent with the powers of the Government, and consistent with the rights of individuals, and that any arbitrary regulation or restriction which overreaches these limits is illegal; that, as the Federal Supreme Court said in the Illinois Drainage case,

“ If the means employed have no substantial relation to public objects which the Government may legally accomplish; if they are arbitrary and unreasonable beyond the necessities of the case, the judiciary will disregard mere form, and interfere for the protection of rights injuriously affected by such illegal action.”

C. B. & Q. R. R. Co. v. Drainage Comm'rs., 200 U. S. 561.

This question was fully discussed in connection with the Congressional permits for water power dams across the Rainy River in Minnesota, and across the James River in Missouri.

In 1908 President Roosevelt vetoed the Rainy River Dam bill, on the ground that there was no limit of time made to the consent of the Congress, and no charge imposed upon the riparian owner as a tribute for the consent given; and he declared himself unwilling, in the future, to approve any bill granting consent to develop water powers in a navigable stream which did not contain a definite limitation as to time, and a provision for charges “ for the benefits ” obtained by the riparian owner. (Report of Subcommittee on Dams and Water Power, H. Rep. Feb. 25, 1909, pp. 5-7.)

These views of the President were repeated in vetoing the James River Dam bill (Special Message of Jan. 15, 1909, Report of Subcommittee on Dams and Water Powers, Feb. 25, 1909, p. 10).

Upon the same question, Senator Knute Nelson, as Chairman of the Senate Committee on Commerce, submitted a report on April 30, 1908, in which he discussed the proposed amendment to the James River (Missouri) Bill, and the attitude of President Roosevelt insisting that time limitations and substantial charges be made upon the riparian owner. In that report, Senator Nelson said:

"This is a new departure from the policy heretofore pursued in respect to legislation authorizing the construction of such dams, and in view of this fact it becomes important to inquire whether the Government of the United States has the right to require compensation for the use of water in such streams for purposes other than navigation."

Then after examining the authorities and coming to the same conclusions, as stated above, he said:

"From the foregoing it will appear that there are three different parties who are interested in the waters of a navigable stream:

1. The United States.
2. The State in which the stream is located.
3. The riparian owner.

The interest of the United States is derived from and rests upon that paragraph of the Constitution which gives Congress the power to regulate interstate commerce, and this power only extends to the extent of conserving the navigability of the stream. Beyond that the Federal Government has no interest or property in the stream.

The interest of the State in the stream is derived from its sovereignty and it holds its property in the stream in trust for all public uses but in subrogation to the rights of the Federal Government as to navigation and of the riparian owner. The right to the use of the waters of a stream for any lawful purpose, outside of the right of navigation, belongs wholly to the State and the riparian owner."

And in conclusion Senator Nelson said:

"From the foregoing statement and citation of authorities it is evident that the only use of the waters of a stream in which the United States has any property is its use for purposes of navigation. In the use of the stream for any other purpose the Federal Government has no property and hence has nothing to sell or to exact compensation for.

The plan proposed by the President would deprive the States and the riparian owners of their rights in the use of the water of a navigable stream now vested in them by law, and would concentrate the entire disposal and control in the Federal Government, a power which neither the States nor the riparian owners can, with justice or safety, for a moment concede. But assuming for the sake of the argument that the Federal Government can lay a tribute in such cases as is proposed by the President, it can not be under the interstate-commerce clause of the Constitution, but must be under section 8 of article 1, which reads as follows:

'Sec. 8. The Congress shall have power to lay and collect taxes, duties imposts, and excises, to pay the debts and provide for the common defense and general welfare of the United States; but all duties, imposts, and excises shall be uniform throughout the United States.'

Such a tribute must be either a direct tax or in the nature of an impost or excise tax. If a direct tax, it can not be levied directly by the Federal Government, but must be apportioned among the States, leaving each State to make the collection; and if an impost or excise tax, then it must be levied by the rule of uniformity upon every dam and water power in the United States not constructed directly or indirectly by the Federal Government. In other words, there must be a general excise law on the subject. The power of the Federal Government over the navigable streams of the country is no greater in the so-called Western or public-land States than in the New England States. If a tribute can be levied on a dam and water power in Minnesota or Colorado, it can be levied on a dam and water power in Maine or Massachusetts, for the power of the Federal Government over navigable streams is the same in the one case as in the other. In the case of *Pollock v. Farmers Loan and Trust Company* (157 U. S., 557) the court states:

'Thus in the matter of taxation the Constitution recognizes the two great classes of direct and indirect taxes, and lays down two rules by which their imposition must be governed, namely, the rule of apportionment as to direct taxes and the rule of uniformity as to duties, imposts, and excises.'

In the case of *Thomas v. United States* (192 U. S., 363), Chief Justice Fuller says:

'And these two classes, taxes so called, and 'duties, imposts, and excises,' apparently embrace all forms of taxation contemplated by the Constitution.' As was observed in *Pollock v. Farmers Loan & Trust Company* (157 U. S., 429, 557), 'Although there have been from time to time intimations that there might be some tax which was not a direct tax nor included under the words 'duties, imposts, and excises,' such a tax for more than one hundred years of national existence has as yet remained undiscovered, notwithstanding the stress of particular circumstances has invited thorough investigation into sources of revenue. * * *'

'There is no occasion to attempt to confine the words duties, imposts, and excises to the limits of precise definition. We think that they were used comprehensively to cover customs and excise duties, imposed on importation, consumption, manufacture, and sale of certain commodities, privileges, particular business transactions, vocations, occupations, and the like.'

An act authorizing the construction of a dam is, so far as

the United States is concerned, a mere revocable license or privilege, and if a tax can be imposed on such a privilege it must be general and uniform throughout the United States. It must apply to all dams and water powers on navigable streams throughout the entire country.

Nearly all navigable streams in their upper and more remote courses are not, as a matter of fact, navigable, and in such reaches of the river dams can be erected and water powers created under State authority and State license, and so long as such dams and water powers do not materially injure or diminish the navigability of the stream in its navigable portions the Federal Government has no ground for interference. It has been customary, however, in many of such cases to apply to Congress for a Federal license and the granting of it, while not necessary, serves a two-fold purpose, first, that it authorizes the Federal Government, through the War Department, to control and direct the construction of the dam, and, second, that it recognizes the fact, which might otherwise require proof, that the dam will not affect the navigability of the stream in its navigable portions.

(*Kansas v. Colorado*, 206 U. S., 46.)

(*United States v. Rio Grande Company*, 174 U. S., 690.)

And in such cases it is of as much advantage to the United States as to the grantee of the license to have Congressional action and recognition, but in such cases the Federal Government has nothing to sell, and, therefore, has no moral or legal ground to demand compensation in any form.

For reasons above given the committee report the bill without the amendment recommended by the War Department."

See Senate Report No. 585, 60th Congress, 1st Session.

General McKenzie, Chief of Engineers, referring to the propositions that the Congress should not only authorize the Secretary of War to grant leases of water powers incidentally created by dams built by the Government for the benefit of navigation; but that it should also empower the Secretary of War to authorize others (than the riparian owner in connection with their riparian rights), to construct and operate dams for water powers, in an opinion to the Secretary of War, on Jan. 16, 1905, said:

"3. In connection with legislation of this kind careful consideration should be given to the question of the limitations of the power of the Federal Government over navigable waters. By virtue of its power to regulate commerce

Congress may exercise control over the navigable waters of the United States, but only to the extent necessary to protect, preserve, and improve free navigation. The federal Government has no possessory title to the water flowing in navigable streams, nor to the land comprising their beds and shores, and hence Congress can grant no absolute authority to anyone to use and occupy such water and land for manufacturing and industrial purposes. The establishment, regulation, and control of manufacturing and industrial enterprises, as well as other matters pertaining to the comfort, convenience and prosperity of the people, come within the powers of the States, and the Supreme Court of the United States holds that the authority of a State over navigable waters within its borders, and the beds and shores thereof, is plenary, subject only to such action as Congress may take in the execution of its powers under the constitution to regulate commerce among the several States.

4. Many of the provisions of the bill under consideration appear to conflict with these principles of law, and particularly sections 3 and 6, which propose to confer upon the United States, and upon any lessee or grantee under the provisions of the bill, the power to condemn any land or other property bordering upon or adjacent to the river or stream to be used. Eminent domain is the right to take property for public uses, and is inherent in the United States by virtue of its sovereignty. Private property can be expropriated by the Federal Government, however, for public purposes only—that is, when it is necessary for the use of the Government in the exercise of any of its legitimate powers. To take or to authorize the taking of the property of one individual for the use and benefit of another in carrying on a private business or industry, as proposed by the bill, is not a proper exercise of the right of eminent domain. There may be certain enterprises of a quasi-public character, such as electric-light and railway companies, that would desire to avail themselves of the uses of water power, and to which the right to condemn private property could properly be granted; but the granting of such right is believed to be the function of the States, inasmuch as the organization and incorporation of these enterprises, as well as the title and ownership of the property affected, are matters for state control and regulation. In view of the foregoing, I am unable to recommend favorable consideration of the bill in its present form.

5. To legislation authorizing the Secretary of War to lease water power created by works constructed by the Government I see no special objection, but I know of no demand for it in the public interest.

The right of Congress to regulate, control, and dispose of

such water power is believed to be unquestionable, inasmuch as the power constitutes a valuable property created at the public expense, and when utilized by private persons or corporations should be paid for. Whether a general policy of this kind should be adopted, however, is a question that should be very carefully considered. Locks and dams are built and operated for the purpose of facilitating navigation and commerce, and nothing should be permitted that would tend to impair their usefulness or interfere with their operation for this purpose. Partnerships or quasi partnerships between the Government and private persons or corporations have not been generally favored in the past, as experience has shown that they are apt to be attended by many annoying complications. I do not believe that sufficient revenue would be derived from renting water power to compensate for the trouble and inconvenience that might ensue from the adoption of such a policy. Congress has heretofore authorized the renting of land and water power at the locks and dams on the Muskingum River and Green and Barren rivers; but it is understood that this was done for the reason that at the time these works came into the possession of the United States there was in existence a number of leases granted by the former owners which constituted an easement on the property, some of which leases had many years to run. In cases where a new privilege is asked, it has been customary to invite public competition, setting a minimum price; but no active competition has been developed. There is also one company which used land and water power at Lock No. 4 on the Kentucky River, under a lease granted by the State of Kentucky, which expires in 1977. During the past fiscal year there were in existence 27 different leases, and the total gross revenue received by the Government was only \$4,500, and in a number of instances in the past the Government has been compelled to resort to suits against lessees to collect the rental. While many applications would be made for permission to use government water power, if no charge was made therefor, it is believed that few leases would be made, and then only at favored localities, if adequate compensation were exacted. In the river and harbor act of June 13, 1902, Congress authorized the leasing of water power at the locks and dams on the Cumberland River. Before the enactment of this law a number of persons appeared to be desirous of using water power in this river, but although the law has been in existence more than two years not a single lease has been applied for or granted. If, however, Congress should decide to adopt this policy, I beg to recommend that the legislation take the form of the accompanying draft of a bill, which, in my opinion, is so drawn as amply to protect the interests of the Government.

6. Regarding the proposition to empower the Secretary of War to authorize the use and development of water power at localities not improved by the United States, it should be borne in mind that natural water power—that is, power made available by the existence of natural falls and rapids in a river—is appurtenant to riparian ownership, and the right to use it is governed by state laws on the subject of private property. As above set forth, the Federal Government can regulate and control it only to such extent as may be necessary in the interest of navigation. Sections 9 and 10 of the river and harbor act of March 3, 1899, cover cases of this kind, and under this law the interests of the Government can, in my opinion, be better protected than by a law general in its scope, as contemplated by the bill. I do not favor the proposed legislation, but if any is enacted, it should be permissive in its character, simply giving the consent of Congress, with suitable limitations, to the erection of the necessary structures in navigable streams for the development of water power, this consent to be executed through the Chief of Engineers and the Secretary of War, to whom should be left entire control in the matter of plans and details."

Report of Subcommittee on Dams and Water Power, House Rep. Feb. 25, 1909.

The House Subcommittee, Hon. F. C. Stevens, of Minnesota, Chairman, after a careful consideration of the legal questions, refused to recommend the further proposed restrictions upon private water powers.

The conclusion which is inevitable from the foregoing consideration of the relative rights of the Federal Government, of the State, and of the riparian owner, was pointed out by President Taft, when, as Secretary of War, he gave an opinion, on the occasion of the application of a riparian owner on the Des Plaines River for the approval of plans, to construct a dam for water power; and he refused the application as being unnecessary for the reason that the Des Plaines River was not a navigable stream, and therefore did not come within the Federal statutes requiring such consent or approval. He said:

"The truth is, that the Des Plaines river, not being a navigable stream, no permit was necessary to put any obstruction into it which the War Department could prevent. BUT EVEN IF IT HAD BEEN A NAVIGABLE STREAM, AND EVEN

IF THE APPLICATION HAD BEEN MADE, AND PROPERLY MADE TO THIS DEPARTMENT, TO SAY WHETHER THIS WOULD INTERFERE WITH NAVIGATION IF THE DEPARTMENT CONCLUDED IT WOULD NOT INTERFERE WITH THE NAVIGATION, THEN IT IS NOT WITHIN THE POWER OF THE DEPARTMENT TO WITHHOLD ITS EXPRESSING SUCH AN OPINION AND GRANTING SUCH A PERMIT, SO FAR AS THE UNITED STATES IS CONCERNED, FOR THE PURPOSE OF AIDING THE STATE IN CONTROLLING THE WATER POWER. If the State has any control over the water power, which it may exercise in conflict with the claimed rights of the riparian owner, then it must exercise it itself, through its own legislation and through its own executive officers. All the United States does, assuming it to be a navigable stream, is merely to protect the navigation of the stream. WITH REFERENCE TO THE WATER POWER, IT HAS NO FUNCTION EXCEPT IN RESPECT TO WATER POWER WHICH IT ITSELF CREATES BY ITS OWN INVESTMENT IN PROPERTY THAT IT ITSELF OWNS: and then, of course, it may say how that water power shall be used.

BUT, WITH RESPECT TO THE WATER POWER ON A NAVIGABLE STREAM, WHICH MAY BE EXERCISED WITHOUT INTERFERENCE WITH THE USE OF THE RIVER FOR NAVIGATION PURPOSES, THAT IS CONTROLLED BY THE LAWS OF THE STATE. IT IS CONTROLLED BY THE RIPARIAN OWNERSHIP AND BY THE COMMON LAW AS IT GOVERNS THOSE RIGHTS. THEREFORE I DO NOT SEE, WITH REFERENCE TO THIS MATTER, THAT THIS DEPARTMENT HAS ANY FUNCTION TO PERFORM OR WHICH IT CAN PERFORM.

Report of Subcommittee on Dams & Water Power, Feb. 25, 1909.

See also *People v. Economy Light & P. Co.*, 241 Ill. 290.

On January 27, 1906, in a letter to the president of the Merchant's Association of New York, President Taft, then Secretary of War, wrote as follows:

"Certain powers in respect to the navigable waters of the United States are vested in Congress by the commerce clauses of the Constitution; and a very limited delegation of the powers so conferred has been vested by Congress in the Secretary of War, extending to the establishment of wharves, dams, bridges, and the like, in such waters, and

to the removal of certain obstructions therefrom, together with the power to prevent such a diminution in the volume or flow of particular bodies of water as will impair their usefulness for purposes of navigation.

"Although the power to determine whether certain waters are or are not navigable is vested in the courts and in Congress and is not ordinarily a matter for executive determination, it may, I think, be safely assumed that the Niagara River in the immediate vicinity of the falls is not navigable, certainly not between Echota and Lewiston, a distance of about seven miles; so that for that distance the river may be regarded as withdrawn from Executive jurisdiction, unless it be shown that the water taken from the stream above the falls for power purposes diminishes the flow below the rapids, where the river is again used for purposes of navigation. It is assumed that the water which flows through the generators of electric power is returned to the stream in the immediate vicinity of the falls.

"If this be the case (and the question is one of fact which is susceptible of easy determination), I know of no authority of law by which the Department can effectively interpose to prevent the diversion of the water from the purposes to which it is now being applied."

Page 258, Hearings before House Committee on Rivers and Harbors, 59th Congress, first session.

Here speaks an executive who never clamors, nor yields to clamors, for legislation repugnant to law. These are the words of the judge who, understanding the established law of property rights, refuses to encourage legislation, or enforce the provisions of statutes already passed, beyond constitutional limits.

Of, course, there should be borne in mind the distinction between proprietary control of water powers exercised by the Government, where such water powers are necessarily incidental to the dams and structures which are built and operated by the Government itself for the improvement of navigation. In such cases leases, limitations of time for leases, and charges for water power are properly made. Such, for instance, was the case upon the St. Mary's river, where the Federal statute, consistently with a proper policy of conservation, saved to itself the benefit of the water powers incidentally created by navigation improvement, but confined these regulations and restrictions to "rights owned by the United States" (Sec. 12, Act of Mar. 30, 1909. 35 St. L. 821).

Upon principles of law thus manifestly established, defining the legal limitation between the rights of the Federal Government, the State Government, and the riparian owner, there can be no justification and no necessity for the protection of any Federal interest or public interest, by placing a time limit or a money charge on Federal consent to riparian owners to maintain and operate dams for water power.

As pointed out in the Union Bridge case, the Government always retains, as against the riparian owner, its right to improve for navigation purposes. Under the law, all other rights belong either to the State or to the riparian owner; and where the State has given the riparian owner all property rights in the beneficial use of the water power, as all the States have done, such riparian owner has the proprietary right to the beneficial use of the water, which is limited only by the actual necessities of the Government for the purposes of navigation. This established legal right of the riparian owner should be fully recognized and should not be encroached upon, even by the terms of legislation.

For the same reasons, except as limited by the actual necessities of the Federal Government, exercised, not arbitrarily or indirectly, but reasonably and directly for navigation purposes, the riparian owner has a property right to all the beneficial use of the water powers. This includes every cent of revenue which he can make such water powers produce. His rights are inferior to the superior rights of the Federal Government only to the extent that they must *yield* to the necessities of navigation. **This means that the exercise of his rights, PHYSICALLY SPEAKING, must be made to conform, or if the structures have already been built, must be subject to change, so far as necessary to the exercise of the superior right of navigation.** It is for the riparian owner to submit to the burden of such changes, because the right to maintain and operate his structures is subject to the right of the Government to make changes when required for navigation. However, subject to such obligations, the riparian owner still retains, as part of his beneficial use, the right to all revenues and proceeds from his water power plant as it may

be operated, whether under its original construction or under a remodelled construction to conform to navigation improvements. To levy a toll, either in advance of the navigation improvement or afterwards, to be paid out of the revenues of the water power, is to appropriate, without compensation and without consideration, to the benefit of the Government, that which belongs to the riparian owner. It is a confiscation, to the extent that such tribute is demanded and enforced. The riparian owner is not benefitted by the improvement of navigation, any more than any other individual of the general public. On the contrary, he is the one especially damaged, to the extent that he has to yield the maintenance of his water power plant and dams to the necessities of navigation improvements. He is always subject to such damage.

It has always been the policy of the Federal government, at its own expense, to improve the facilities for navigation for the general benefit of the public. Its power to improve navigation is given in terms as a "power to regulate commerce". There is no justification in law, in principle, or in reason, for the levy of a toll or tribute upon the riparian owner, to reimburse the Government for the expense of improvement of the river at a point where water power plants are located. There is much less justification for the accumulation of a fund by such means for the purpose of improvement of such navigation at other points of the same stream, or of other streams. If the Government should change its policy of bearing the expense, the toll or charge should be paid by those who are benefitted by the improvement, and to whom valuable facilities are thereby given for private remunerative enterprises connected with navigation. As to such beneficiaries, the present Federal policy is stated as follows:

"No tolls or operating charges whatever shall be levied upon or collected from any vessel, dredge or other water craft, for passing through any lock, canal, canalized river, or other work for the use or benefit of navigation, now belonging to the United States, or that may be hereafter acquired or constructed";

and such cost of operating, preserving or continuing the use of such work shall be paid out of the Treasury of the United States (§6 Act Feb. 27, 1911, 36 St. L. 956).

3. The Property Rights of the Riparian Owner Cannot be Diminished by Legislation, State or National, Nor by Treaty.

It has been already demonstrated that the rights of the riparian owner are property rights and that they include the exclusive right to the entire beneficial use of the bed and waters of the stream, subject only to the paramount public right; and that this paramount public right, whether federal or state, is limited to a specific purpose,—navigation—and that the riparian rights are the same, whether the title of the bed is held by the State or by the riparian owner. This rule of property rights is stated by the Minnesota court as follows:

Whether the fee to the bed or only an easement therein are in the riparian owner " may be a question of speculative interest, but it is not one of any practical importance. If the fee be in the riparian owner, yet, of course, it must be a qualified fee; that is, subject to the paramount right of public navigation. But, if it be in the State, the riparian owner still has, subject to the same public right, the exclusive right of possession and the entire beneficial interest."

Union Depot Co. v. Brunswick, 31 Minn. 297.

This definition of the riparian property right is further enforced by the rule, already shown, that:

" The limit to the private right is imposed by the public right, and the private right exists up to the point beyond which it would be inconsistent with the public right."

Morrill v. Water Power Co., 26 Minn. 222, 228.

Hanford v. Railway Co., 43 Minn. 104.

Any legislation, therefore, is invalid which has the effect to take away or diminish this riparian property right, either directly or by attempting to extend the paramount public right so as to encroach upon the private right. The private right extends up to the point where it becomes " inconsistent " with the public

right, that is, with the public right of navigation. The public right is itself limited to the reasonable necessities of navigation. Even under the guise of navigation purposes, the public right of interference with the enjoyment of the private right cannot be extended arbitrarily nor beyond reasonable necessity; much less could there be any diminution or encroachment upon the private right for purposes which are not connected with the actual navigation of the river.

The better and more logical view, which really is the scientific statement of the relations between the public right of use for navigation and the private right of use by the riparian owner, is that which is set forth in a recent Minnesota case, where the doctrine of "reasonable use" is applied as between those exercising the public right and those exercising the private riparian right upon a navigable stream. That doctrine so applied recognizes the common interest and right of use of beds and waters of navigable streams between those controlling and exercising the public right of navigation and those exercising the riparian right of beneficial use, and holds that each of the two classes of users must exercise their rights with reasonable regard for the other. In that case one Sprague, a log driver using the stream for navigation, allowed his logs to pass over the crest of the riparian owner's dam without due regard to the safety of the dam, and injured the dam. He claimed he was not liable because the dam was a purpresture in a navigable stream and was not built or maintained by any legislative authority, and that he was using the river for commerce and navigation, indeed, interstate commerce, as he was floating the logs from Minnesota to Winnipeg, Manitoba, and that his right to navigation was paramount. The Minnesota court held that the dam was not illegal, for:

"Subject to the control of Congress in proper cases, and independent of the statute, the right of riparian owners to construct, maintain and operate dams upon rivers and streams in this State is firmly established by the decisions of this court."

Crookston W. W. P. & L. Co. v. Sprague, 91 Minn. 461, 467.

In the same decision it was held that Sprague and the dam owner were users of the river in common and that as he exercised his public right of navigation without reasonable regard to the private right of the riparian company, he was liable.

In the *Union Depot* case, the city of Stillwater, under special authority of the State statute, assumed to authorize the railroad company

“to use and occupy with its structures that part of Lake St. Croix in front of the city of Stillwater, between the low water mark and the center of the lake.” (Lake St. Croix is simply a widening of the St. Croix River);

but the state Supreme Court held that the State had no proprietary interest in the land in question, but only a sovereign right of control to the extent that navigation purposes should require, and that its sovereign right of control for the specific and limited purpose of navigation, in the absence of any proprietary interest in the State, gave no right to the State to convey, lease or license, or authorize any such license; and excluded any right or interest in the State, even as sovereign, not directly connected with navigation purposes, and, with reference to the municipal license expressly authorized by State statute, the court said that it

“cannot affect the rights of the respondents as riparian owners, and hence cuts no figure in the case.”

Union Depot Co. v. Brunswick, 31 Minn. 297.

So, in the case of the public levee upon the Mississippi River to which were appurtenant valuable riparian rights and where the city of St. Paul, under express authority of State statute, assumed to grant a license for the building of warehouses upon the shore, with use of riparian rights, it was held that the municipal license, though expressly authorized by State statute, was invalid, because the city held the riparian land only as sovereign in trust for a specific purpose, and the State held the fee of the bed only as sovereign trustee for a limited specific purpose; and,

therefore, the State and City grants could not affect the private riparian property rights of abutting owners.

“ Even the legislature itself has no power to destroy the trust, or to divert or authorize a municipality to divert, its subject to any other purpose public or private inconsistent with the particular use for which it was granted. Neither the State nor the municipality within which the property is situated has any proprietary interest in it which either of them can sell or divert to any use inconsistent with the purpose of the dedicational grant. The State holds such land merely in its sovereign capacity, in trust for the public for the purposes for which it was dedicated.”

City of St. Paul v. Railway Co., 63 Minn. 330, 340, 352.

Having seen, therefore, that federal control in navigable streams is limited to the specific purpose of commerce, that is, navigation, and that the federal control for that purpose does not give to the federal government any proprietary interest, but is only a sovereign power of control in trust for that specific public use,—it follows that any grant or license and the terms of any grants or licenses must be limited with due regard to that specific purpose for which alone the federal authority exists. Its legislation must have substantial relation to the specific public objects for which the federal government holds its power of control. In the words already quoted from the United States Supreme Court:

“ If the means employed have no substantial relation to the public objects which the government may legally accomplish; if they are arbitrary and unreasonable, beyond the necessities of the case, the judiciary will disregard mere form and interfere for the protection of rights injuriously affected by such illegal action.”

C. B. & Q. R. R. Co. v. Drainage Commrs., 200 U. S. 561.

4. The Limit of Federal Authority to Impose Tolls or Charges upon Riparian Owners.

We have already shown that the general policy of imposing tolls or charges and limitations of time upon riparian owners is inconsistent with the federal authority over navigable streams,

especially for the purpose of compelling the riparian owner to *contribute* to the treasury of the federal government, whether for a navigation improvement fund or otherwise. There is no precedent or authority, federal or state, which in any way would give any warrant to the levying by the United States of such tribute or contribution from riparian owners. This does not mean, however, that the riparian owner should in all cases be entirely free from any kind of a charge imposed by the federal government. From the very fact of its power of supervision of navigable streams for commerce and navigation, the federal government may assert and properly enforce the administrative authority requiring a consent or license for the construction and operation of a water power dam upon a navigable stream as having

“substantial relation to the public objects which the Government may legally accomplish”, (200 U. S. *supra*)

and as reasonable and within “the necessities of the case”; but the reasonableness and the necessity are not to be measured by the financial demands upon Congress for the improvement of these rivers for navigation purposes, nor to create, wholly or in part, an expense fund for special or general navigation improvements. The license and consent are, in law, only for the purpose of preventing any particular structure from interfering with actual navigation at the particular point in question. The riparian owner's property right entitles him to construct and operate his dam only in the manner, to the extent and for that length of time that such structure does not actually interfere with navigation. The provision for the license and consent is merely a supervisory or protective one; it is a merely administrative right and cannot legally be exercised as an indirect means of acquiring substantial benefit for the government nor of compelling contribution out of his financial benefits by the riparian owner in order to bring revenue to the government. *All* the water power revenue belongs to the riparian owner. Neither can the charge or toll be levied under the power of taxation, for

the charge or toll is manifestly not in the nature of a tax nor levied as a tax; nor does it come within the requirements as to the manner of levying a tax.

The charge or toll therefore cannot be legally justified, either as a consideration for benefits bestowed, or for the purpose of acquiring revenue, or as a contribution, or as a tax. If imposed at all, it must be imposed as a license charge and therefore, within the limits of a license charge which is permissible by a government in connection with powers of *regulation*. The power of the federal government is in this instance one of regulation solely; and its power is only indirectly one of regulation of the use of beds of navigable streams. Its original and basic power and authority is "to regulate commerce". From this are derived certain powers to regulate navigation, that is in the highways of commerce, and then, in the interest of navigation exclusively, to regulate the highways of commerce, that is navigable streams. Its power to regulate the use by the riparian owner of the bed of the streams is only an incidental power; but it is merely one of regulation and a limited power of regulation for a limited specified purpose.

The legal limitations of a license fee in such instances of regulation have been defined. It is to be measured by a fee based upon the actual expense occasioned to the government by carrying out the requirements for the issuance of the license. In the case of water power dams it could not include any element of extra expense to the government in the improvement of navigation occasioned by the structures of the riparian owner; for in most cases such structures are a help to navigation, especially when located as most are with a view to the future possible use of the river for navigation. Moreover, in case any such structure were not so located, it may be made to conform afterwards, at any time, at the sole expense of the riparian owner and without extra expense to the government,—as is shown by the *Union Bridge Company* case above. The charge, then, must be limited to a mere license fee and it must not be an exaction of revenue or a prohibition but purely one of regulation within the limits

stated. Such right to impose a license charge under the power of regulation has been stated to be a right only.

"to impose such a charge as would cover, not only the necessary expense of issuing it, but also the additional labor of officers and other expenses imposed by the business, but nothing beyond this. * * * The amount of the license fee or charge is to be considered in determining whether the exaction is not really one of revenue or prohibition, instead of one of regulation."

City of Ottumwa v. Zekind, 95 Iowa, 622.

5. Some Instances of Unjustified and Illegal Exactions and Restrictions.

It is manifest that in many instances Congress already has gone beyond the limitations set by the United States Supreme Court in the *Drainage Commissioners* case. Some provisions have not

"substantial relation to the public objects which the government may legally accomplish."

and are

"arbitrary and unreasonable, beyond the necessities of the case". (200 U. S. 561, *supra*.)

The same legal limitations on legislative action were established by the New York court. Referring to the riparian rights in the Niagara River, where an attempt was made by the State to interfere with a private right, beyond the extent that such interference was in the interest of some substantial right of the State, and beyond the extent to which such state right was interfered with by the private right, the court said:

"Not even the State is at liberty to interfere with the riparian rights of the relator arbitrarily, but such interference, if attempted, must be in the interest of some substantial right of the State affected by the exercise of the right of the relator to the use of the waters of the river."

People ex rel Niagara Falls Co. v. Smith, 70 App. Div. 543; *affd.* 175 N. Y. 469, citing *People v. Mould*, 37 App. Div. 35.

So the Wisconsin Supreme Court, holds that the sovereign trust power of control cannot be extended to a proprietary interest nor to obtain revenue for the sovereign trustee. When the State tried to charge individuals for ice taken from public lakes, that Court said:—

“ Is ice, formed naturally upon the public waters of the state, state property in a proprietary sense,—property which can deal with as a private person deals with his property rights? It must be assumed without discussion that *no property right was acquired by the state by the mere legislative declaration that ice formed upon meandered lakes within the boundaries of the state belongs to the state as property.* The legislature has no such arbitrary power, under our constitutional system, as that of changing the nature of the ownership of property by its mere fiat. It can no more accomplish that result in that way than it can change the laws of nature by a legislative declaration. Ice formed on public water is the absolute property of the state independent of any legislative assertion in that regard, or not at all. We would not for a moment indulge in the idea that any branch of the law-making power, responsible for placing upon the statute books the enactment in question, thought otherwise. The declaration as to state ownership was as mere proclamation that henceforth the state proposed to sell its ice, or give it away, according as the same was desired for domestic consumption or shipment outside the state, it being supposed, as indicated by the executive approval of the enactment, that the fact of state ownership was not open to question. Of course, if in that there was a misconception of the law, the law remains unchanged notwithstanding. ‘ An enactment of the legislature based on an evident misconception of what the law is will not have the effect, *per se*, of changing the law so as to make it accord with the misconception.’ *Byrd v. State*, 57 Miss. 243, 247.”

* * *

“ Obviously, there can be no difference between public water in a liquid condition and in the form of ice, or between water and the land covered thereby, or the fish or fowls which inhabit the same, or any of the animals *feræ naturæ*, in respect to sovereign authority over the same. If one may be dealt with as the absolute property of the state, the others may be. It follows, that, if the legislation in question be valid, the right to take water from navigable lakes for shipment, though it in no way affect the character thereof for other public purposes, and the right to fish and hunt, may be subjects of sale by the state for the mere

purpose of adding to the public revenues; those things which have been supposed to be public and for the individual enjoyment of all without restraint, other than by reasonable police regulations to preserve their character in that regard, things above sovereign authority to barter in as in ancient systems entirely foreign to ours, will cease to have that character in fact, and our notions in regard thereto will have to be readjusted to the newly established condition,—that which regards the state, not as a mere trustee for the whole people, of the subjects we have mentioned, but as the absolute owner thereof, with power to deal therewith as a private person might if he were such owner.”

* * *

We have by no means exhausted the decisions of the courts on the subject, but it seems useless to add more since *there are no contrary decisions. We are safe in saying that no court has more definitely declared that the interest of the state in its navigable waters and the lands under them, and all the incidents thereof, are purely of a trust character, the beneficiaries, on a plane of perfect equality, being the whole people of the state, than this court has done in recent years. In doing that, it is believed, the people have been rescued from all dangers of losing any of those common rights by the invasion thereof by claims of private owners, if such dangers ever existed. That judicial service would be of little value if mere state ownership for the preservation of the common rights were so perverted as to support a claim of state ownership in hostility to such rights, a principle which, in the possibilities of its development, might lead to a serious impairment, if not utter ruin, of a most important trust. Such a conservation would be a very demoralizing example of how the subject of a trust may be converted to the private benefit of the trustee.*

* * *

“The state has no such interest in the beds of navigable lakes that it can treat the same as a subject for bargain and sale or grant the same away to private owners under the guise of police power or otherwise; that it is a mere trustee of the title thereto, under a trust created before the state was formed, to which it was appointed as trustee by its admission into the Union; that it has no active duty to perform in respect to the matter, or power over the same, except that of mere regulation to preserve the common right of all; that its power over the res is limited by the original purpose of the trust; that it is, in effect, a mere trustee of an express trust, a trustee with duties definitely defined. Those principles are too firmly established to admit, at this late day, of being seriously questioned. It seems clear that if the state cannot sell the bed of a navigable lake, it cannot sell the waters thereof, or the fish therein, or

the fowls that resort to its surface, or the ice that forms thereon. The rules that limit its right as to one of those matters, limit its power as to all."

So the rights of the Federal Government in highway streams are only those of a trustee of an express trust—to regulate commerce.

The Wisconsin Court continues:

"The state can no more appropriate to itself the ice formed upon its navigable lakes, or other navigable waters, than one person can rightly appropriate the property of his neighbor against the latter's will, and pass that title by bargain and sale, or otherwise, to the third person. Since the whole beneficial use of navigable lakes is unchangeably vested in the people, every one within the state having the right to enjoy the same so long as he does not invade the like right of another, without any interference by claim of paramount right to the subject thereof, *any law invading that individual possession is, in effect, an invasion of the right to liberty and property without due process of law*, contrary to said fourteenth amendment. *Any such invasion for the purpose of adding to the public revenues, exacting from a person, for the benefit of the state, compensation for the enjoyment of a right which belongs to him and which he has a right to enjoy without paying therefor, violates sec. 13, art. I, of the state constitution, prohibiting the taking of private property for public use without just compensation.*"

Rossmiller v. State, 114 Wis. 169.

In this Wisconsin case, the attempt was by the State, the mere sovereign holder in trust for the purpose of regulating for the general public benefit, to extend its authority of mere regulation to making a prohibitive restriction against, and levying tribute to itself out of, the exercise of the private right for whose benefit it was trustee. Much less, then, could the Federal Government, as Trustee, holding in its sovereign capacity the power to *regulate* highway streams for one specific public purpose, extend that power so as to invade the private property rights of riparians who are not beneficiaries of the trust, but who have proprietary rights of user so far as not inconsistent with the actual use by the public for the specific purpose, to protect which, alone, the sovereign power in trust was reserved.

It cannot impose arbitrary or prohibitive restrictions or burdens on the riparian nor exact revenues from the proceeds of his beneficial use. To do so is to assert a proprietary interest which does not belong to it, while at the same time it invades the property right of the riparian.

This wide difference between the mere *power of the sovereign, as sovereign, to regulate navigation in highway streams and the right of the sovereign as proprietor to assert proprietary interest in the beds and waters themselves*, has been too much overlooked. Some instances follow:

(1) THE DAM ACT OF JUNE 23, 1910.

The Act of Congress of June 21, 1906, to regulate the construction of dams in navigable rivers, was amended in 1910. This 1910 act contains the following provisions:

That in approving the plans, "such conditions and stipulations may be imposed as the Chief of Engineers and the Secretary of War may deem necessary to protect the present and future *interests of the United States*". These words "interests of the United States" cannot of course enlarge the authority, which is limited to navigation purposes, to any other general or special interest. The act then specifies certain classes of conditions and restrictions as those included in the general power given to the Chief of Engineers and the Secretary of War, for instance:

That the dam owner shall construct such locks and other structures in connection with his dam "as may be necessary in the interests of navigation".

That whenever the Congress shall authorize locks and other structures for navigation purposes, the owner shall convey to the United States the title to such land as shall be required, and shall grant the use of water power sufficient to operate the locks and structures built by the Government.

Then, adding to the provisions of the 1906 act, it was provided:

"That in acting upon said plans as aforesaid, the Chief of Engineers and the Secretary of War shall consider the bearing of said structure upon a comprehensive plan for the improvement of the waterway over which it is to be constructed with a view to the promotion of its navigable

quality and for the full development of water power; and, as a part of the conditions and stipulations imposed by them, shall provide for improving and developing navigation, and fix such charge or charges for the privilege granted as may be sufficient to restore conditions with respect to navigability as existing at the time such privilege be granted or reimburse the United States for doing the same, and for such additional or further expense as may be incurred by the United States with reference to such project, including the cost of any investigations necessary for approval of plans and of such supervision of construction as may be necessary in the interests of the United States; *Provided, further*, That the Chief of Engineers and the Secretary of War are hereby authorized and directed to fix and collect just and proper charge or charges for the privilege granted to all dams authorized and constructed under the provisions of this act which shall receive any direct benefit from the construction, operation and maintenance by the United States of storage reservoirs at the headwaters of any navigable streams, or from the acquisition, holding, and maintenance of any forested watersheds, or lands located by the United States at the headwaters of any navigable stream, wherever such shall be, for the development, improvement, or preservation of navigation in such streams in which such dams may be constructed."

There is also a proviso for the condemnation of the dam and works in case the license shall be revoked, and a provision for the termination of the license in 50 years, this time limitation not being applicable to any dam heretofore authorized by the United States or by any State.

Act of June 23, 1910. 36 Stat. L., 593, 594-5.

Under the law as to limitation of Federal control, already shown, it is manifest that the above statute goes not only to, but in many respects beyond, the limits for which there is any basis of authority in law.

It has been shown that the riparian dam owner is entitled to *all the beneficial use*, including all revenue, from the water power, *not only to the extent* that his use is consistent with navigation, so far as physical structures are concerned, *but also for the entire period of time up to and until* his structure shall be necessarily affected by actual navigation improvement. Consequently, if any changes are required in his dam, he cannot rightfully be compelled to bear the burden of the expense, *except so far as, and until, such expense is made necessary by reason of his structures.*

Nevertheless, regardless of the fact that his water power dam is an assistance to natural facilities for navigation and is to be utilized by the Government as such assistance, he is compelled, at his own expense, to construct locks and to furnish power to operate them. If the water power dam had not been constructed, the entire expense of dam, locks and operation would be upon the Government. But by this statute, the very fact that the riparian owner has exercised his riparian rights by building the dam, is made the basis of imposing an extra charge or expense for the benefit of navigation, beyond the extra navigation facilities afforded by his dam. Such an exaction imposes a *contribution* upon the riparian owner out of his private riparian rights, beyond the necessary expense or damage which is incidental to his merely *yielding* his rights and advantages to the actual necessities of navigation.

The same is true of the provision that locks should be made at the expense of the dam owner, at any time afterwards, if, in connection with other improvements, such locks become necessary for navigation purposes.

Still more confiscatory are the terms of the provisions above quoted for the imposition of a money charge to be paid by the dam owner. The illegality of this charge is attempted to be circumvented by the provision, in terms, that the charge is to reimburse the Government for restoring the natural condition of the river when such restoration shall be deemed necessary for navigation purposes. Such charge is really intended to be imposed, independent of the practicability or probability of navigation at the point in question. Moreover, it is imposed in advance of a mere theoretical, and perhaps impossible, navigation use.

At most points upon a navigable stream where power dams are created, "the point of navigability" to which, under his riparian right, the riparian owner may construct and maintain structures for his own beneficial use, independent of navigation, does not exist. In such cases he may, of course, under his riparian right and without regard to navigation, maintain struc-

tures to the centre of the stream, and have and obtain all the beneficial use, including revenue, from such structures, and continue in the possession of such benefits until they are necessarily modified by actual navigation improvement. Here, too, the riparian owner is made to contribute to the Government out of the benefits which he is entitled to retain.

Of the same character is the further provision that the riparian owner, whose plant is situated below reservoirs maintained and operated by the Government for navigation purposes, shall contribute to the expense of such reservoirs and their operation, by submitting to a charge, to be paid out of his revenues. The right of the Government to construct and operate headwater reservoirs for navigation cannot be disputed, but these are not required, nor is the expense of construction and maintenance increased, by reason of the power dam below; neither is their efficiency decreased or affected by the power dam. The construction and operation of the power dam is in no degree "inconsistent" with the exercise of this public right for navigation purposes, whereas, as we have seen, it is up to the limit of the public rights that the private rights and beneficial use belong to the riparian. It is a mere incident if the water power is improved by such reservoirs; but the water power development is in no degree in conflict therewith. Here, again, is imposed a contribution which is not warranted in law.

To the same effect is the time limitation; and the principle is the same whether the limit be five years or fifty years, although not as prohibitive in degree.

The vice of these limitations lies in the erroneous assumption, upon which they are founded:—that the Federal Government has an interest in, that it has or controls the beneficial use of, water powers *as such*, because they are located on streams which are among the class of highways of commerce, and that such interest extends beyond the limits of a power purely regulative of commercial navigation.

Such provisions disregard the property rights of the riparian owner and the well fixed rule, that, **SO FAR as not inconsistent,**

and SO LONG as not inconsistent, with the actual needs of navigation, he has, as riparian owner, a property right to **every element of beneficial use** in the beds and waters of the stream, as appurtenant to his riparian land, **and not only that, but to ALL the beneficial use and to ALL the advantages, benefits and revenues therefrom.**

(2) FEDERAL RESTRICTIONS UPON THE NIAGARA FALLS POWER.

From what has been shown, it is clear that the State of New York holds the fee of the Niagara River and of the St. Lawrence River, from the New York shore to the international boundary line, which is the center of the river; however, with no proprietary interest, but only as sovereign in trust for the specific purpose of navigation. Even if there are any other public uses, except navigation, for which there is a sovereign holding in trust, such holding is by the State. It is also clear that the riparian owner, not only by the federal law and decisions but also by the State law and decisions, owns the riparian rights including all beneficial use of the water power with the right to use the bed in the development and operation of such water power. Further, that these rights of the State and of the riparian owner are subject only to the limited federal power of regulation for navigation.

Nevertheless, after certain riparian owners, in the exercise of their riparian rights, confirmed by the legislature of the State of New York, had made large expenditures in the development of water power plants at Niagara Falls with a total capacity of 20,000 cubic feet per second of water, and requiring the operation at full capacity in order to obtain the most economical and beneficial use, Congress in 1906 arbitrarily limited the quantity to be used to 25 per cent. less than capacity.

Act of June 29, 1906, 34 Stats. at Large 626.

More than that, Congress has since, in terms kept the same restriction, although in 1909-10, a treaty was made with Great Britain by which the United States reserved the right to permit the use of a total of 20,000 cubic feet per second.

Treaty between United States and Great Britain in regard to the boundary waters between United States and Canada, signed January 11, 1909, proclaimed May 13, 1910,—Treaty Series, No. 548.

This treaty was made for the express purpose of limiting the diversion of water from Niagara River,

“ so that the level of Lake Erie and the flow of the stream shall not be appreciably affected ” (Art. V).

The same treaty recognized the equities, if not the legal rights, of the riparian owners who had made investments prior thereto upon the strength of their riparian rights and grants from the State, expressing

“ the desire of both parties to accomplish this object with the least possible injury to investments which have already been made in the construction of power plants on the United States side of the river ”, etc. (Art. V).

The most careful scientific observations which could be made showed that the effect, of operating the power plants at full capacity, upon the levels of Lake Erie and the Niagara River would at most only lower such levels a fraction of an inch, and that such levels would not “ appreciably ” be affected. The river is admittedly not actually navigable and can never be actually navigable at the points in question. It is thus demonstrated that no interest of or connected with navigation, either directly or indirectly, would be affected.

The real and only avowed object of the act of June 29, 1906, and the only object of the terms of the treaty of 1910, so far as the Niagara River is concerned, was, not to protect commerce or navigation, either directly or indirectly, but to prevent interference with the “ scenic grandeur of Niagara Falls ”.

The title of the act states that the control and regulation contemplated are “ for the preservation of Niagara Falls ”. But the Falls are not only unnavigable, but are an insurmountable obstacle to the navigation of the river.

Furthermore, the act authorizes restrictions to be made by the Secretary of War to prevent interference with "the scenic grandeur of Niagara Falls" (§2).

Again, this act authorizes a treaty with Great Britain, the sole object of such treaty being stated as "for such regulation and control of the waters of Niagara River and its tributaries as will preserve *the scenic grandeur* of Niagara Falls and of the rapids in said river" (§4).

The treaty was authorized only for that purpose; and, while it contains provisions relating to other boundary waters with a view to protecting navigation, the provisions as to Niagara Falls are based upon the fact that "the high contracting parties agree that *it is expedient* to limit the diversion of water," etc.

It is thus manifest that the sole object of the act of June 29, 1906, and of the treaty of 1910, with reference to Niagara Falls, was to protect "scenic grandeur".

Under the law of water rights and water powers, as above shown, there was no basis whatever for the interference of Federal authority. If there were any legal basis for the exercise of Federal control on the ground of protecting "scenic grandeur," then Congress would have the authority to prevent water power development on any stream in the United States, whether navigable or unnavigable; for every water fall has, proportionate to its location and size, the quality of adding scenic beauty to the landscape view. It is of course within the power of the Federal Government or that of a State, to acquire the riparian land and thereby the water fall and to preserve the same, alone or in connection with a public park, for the purpose of pleasing the sense of beauty; but there can be no authority for regulation based alone upon the power to preserve scenic beauty. Indeed, under our law of property, flowing streams were intended for the use of man, and these rights of use vary in extent and nature as the natural features appurtenant to the land vary; and the right of their enjoyment goes with the land.

If there were any sovereign right of control to protect "scenic grandeur", it is a right which has not been reserved to and does

not belong to the Federal Government, but entirely to the State of New York. It has been shown, however, that no means of observation could detect any appreciable difference in the appearance of the Falls occasioned by such use of the water for power. In any event, the rule *de minimis* would apply. There would be no ground even for State interference, assuming that the State had the power. It is sufficient to note, however, that the Federal Government had no authority to make or enforce the restrictions attempted. They were unlawful, not only for lack of authority, but for the more important reason that at the same time they had the effect arbitrarily to deprive the riparian owner of a part of his beneficial use, which the law of property rights gave to him and which rights had been confirmed as property rights, not only by the legislature, but by the Courts of New York (*People ex rel. Niagara Co. v. Smith, supra*). The restriction by Congress under the Act of 1906 to an amount 25 per cent below capacity is therefore void.

It happens that the amount provided for by the treaty of 1910 is the same as the total capacity of established water-power plants; but if either riparian owners hereafter exercising their riparian rights, or present riparian owners of established plants, shall wish to develop and use beyond the amount limited by the treaty, especially if permission for such further use is made by the State of New York, the limitations of the treaty cannot necessarily limit an increased use. It being established that the use and the right of use is a private property right, and that the restrictions involved are not for the purpose of, or necessary for, the regulation of the stream for navigation, the limit of Federal authority has been reached. Property rights can no more be taken away or diminished by the Federal Government under such treaty provisions than by the provisions of an Act of Congress.

This is not to deny the paramount treaty-making power of the Federal government, nor that, in some instances, treaty stipulations entered into in accordance with the constitutional authority and powers reserved to the Federal government, may supersede

State laws and constitutions, and even the law of private property rights. But the Constitutional powers reserved to the Federal government with regard to waterways, which, as we have seen, include international boundary streams, are expressly limited. It cannot, therefore, beyond the limits of that reserved authority, make stipulations with a foreign nation by which private property rights are destroyed, and leave the private property owner bound by such stipulations, or at least without leaving to him a remedy for his injury.

“ A treaty, no more than an ordinary statute, can arbitrarily cede away any one right of a State or of any citizen of a State ”. Treaty provisions must be made within the constitutional powers of Congress over the subject matter.

License Cases, 5 How. 613.

1 *Butler* “ *Treatymaking Power of U. S.* ” p. 402 note.

Moreover, neither by treaty nor by statute can such restrictions be justified on the ground that the waters in question form an international boundary. Assuming that the Federal government had supervisory powers arising from the fact that the stream is such boundary, its powers would be limited to such restrictions or regulations as are necessary to preserve the boundary. . The real boundary, however, is not the river itself, but the centre of the river. As a matter of fact, the diminution of the waters passing over the crest of the falls does not in any degree change the line of the centre of the stream. As shown above, the riparian rights are the same upon international boundary streams as upon other navigable streams. This is shown in the decision of the Federal Supreme Court, cited above, that the riparian owner on the Sault Ste. Marie holds a fee to the middle of the stream; and, further, that the riparian rights are not affected or diminished by reason of the fact that the stream is an international boundary.

U. S. v. Chandler-Dunbar Co., 209 U. S. 447.

But under the same real and avowed purpose of protecting “ scenic grandeur ”, the act of June 29, 1906, goes further; it

restricts the quantity of electrical power that may be transmitted from Canada into the United States to 160,000 horse power (produced by about 8000 cubic feet of water per second). (§2).

It has been demonstrated as a fact that this restriction, and the restriction placed on the American side, cut down the amount allowed to much less than the capacity of the plants which had been established at the time of the Act, and therefore occasion a substantial loss in revenue to the riparian investors, and also, by preventing operation at full capacity, increase the development cost per horse power produced.

More than that, the amount permitted to be sold upon the American side is much less than the actual demand for power; and industrial development in the vicinity of Niagara which would, otherwise than for such restrictions, be promoted and increased, is comparatively at a standstill.

The restrictions, therefore, are injurious, not only to the riparian owner, but to the general public, and are inexpedient.

However, the important fact here is that the restrictions are unauthorized and invalid. We have shown this as to the restrictions on the American side, but the same objections, and others, apply to the restrictions upon transmission from the Canadian side.

The only authority there can be for such federal restriction is the power to regulate commerce. The restriction, however, is not a regulation of commerce, but a prohibition. It prohibits the supply of a product to a market in which there is a ready demand. The demand, moreover, is one created by public needs, the fulfilment of which would bring great public advantage.

Even if the diversion prevented would, in fact, make any appreciable difference in the " scenic grandeur " of the Falls, that is a matter, which, as we have said, is not within Federal authority.

It is a self-answered proposition to assert that the object of preserving " scenic grandeur " is an object within the power of

regulating commerce. The assertion of such power is directly contrary to the principles laid down in the cases above cited. It has not "substantial relation to the public objects which the Government may legally accomplish". It is outside those objects, and is therefore "arbitrary and unreasonable and beyond the necessities of the case". (200 U. S., 561, *supra*). It is not "in the interest of some substantial right," given to the Federal Government by the Constitution, "which is affected by the exercise of the right of the relator (the riparian owner) to the use of the waters of the river" (Niagara Falls case, 70 App. Div., 543; *aff'd* 175 N. Y. 469).

Indeed, the restriction as to transmission from the Canadian side, by being continued since the treaty of 1910, is still more unreasonable and invalid. That treaty limits the total amount of water to be used for power on the Canadian side to 36,000 cubic feet per second, and on the American side to 20,000 cubic feet per second. On the Canadian side, the total amount permitted by the treaty is not diminished; on the American side the treaty amount is diminished about 25 per cent.

Assuming all the provisions, both treaty, and of the Act of June 29, 1906, to be valid, this restriction against transmission from the Canadian side has no effect in diminishing the total amount diverted at the Falls, whether such diversion be for one object or another. It has the effect only of stimulating industrial development on the Canadian side, and of retarding industrial development on the American side. This restriction amounts, in short, to a substantial subsidy to investors in Canada, at the expense of the American investors.

And yet, this arbitrary, uncommercial and unwise restriction is claimed to be founded on the Federal authority to "regulate" commerce! It is simply an instance of legislative suicide, incited by a mistaken sentiment for "scenic grandeur." It may be picturesque; but it is neither lawful nor expedient.

[As to the facts and law with reference to legislation to preserve the "scenic grandeur" of Niagara Falls, see the following documents: Report of Hearings before House Committee on

Foreign Affairs, Jan. 16, 1912 and following days, on House bills, "to give effect to the fifth article of the treaty between the United States and Great Britain, signed January 11, 1909;" also report of hearings before House Committee on Rivers and Harbors, January, 1911, same subject; also Report of Hearings before House Committee on Rivers and Harbors, April, 1906, on Burton Act; also Report on "Water Powers of Canada," published by Commission of Conservation of Canada, September, 1911.]

It is apparent from the foregoing that Federal legislation affecting private water powers upon navigable streams has already, in many instances, gone beyond the legal and proper limits of Federal authority. It remains only to call attention to some considerations, on the ground of policy, which should influence future legislation on this subject.

V.

THE QUESTION OF POLICY.

From what has already been shown, the general policy which should be pursued by the federal government is apparent, and the following suggestions as to such policy would seem to follow as a rule of law:

1. The right of the riparian owner to all the beneficial use of the water powers appurtenant to his land is subject only to the limited power of the federal government to regulate the stream for navigation purposes. Such powers of regulation cannot be exercised, as against the riparian right, except to the extent, and for the time that the necessities arising from actual improvements for navigation require that the riparian right of user should yield.

2. The obligation upon the riparian owner, that his user shall yield to necessary improvements for navigation, does not include the obligation that he shall contribute out of the benefits of his right of user, to the expenses which it is incumbent upon the government itself to bear for navigation improvements.

3. The power of the government is a restricted one, and for a restricted purpose. Its limitations may be and are clearly defined. Such power or authority of the government does not arise from, nor give to it, either as sovereign or proprietor, any right to the beneficial use of the water powers. It does not, directly or indirectly, hold or have any interest in the water power, or in any of the advantages, financial or otherwise, accruing from the beneficial use thereof.

4. The property right of the riparian owner is clearly defined. Therefore, legislation should be framed with a view to protecting that private right rather than infringing upon it. Much less should the Government attempt to legislate to itself, or to a State, or to the public, any advantage or benefit arising from the use of such water power. There is no foundation in law for the making of restrictions or prohibitive conditions, or the levying of tributes or charges, for a privilege or license to a riparian owner to develop, operate and enjoy the advantage of his water power.

5. Federal control of water power is expressly limited to the sovereign power of control for the specific purpose of navigation, and is limited to the reasonable necessities of such navigation. All other powers of control, including all proprietary rights in the beneficial use of the water powers, have passed to the States; and the States, by adjudications which are final on this subject, have confirmed on the riparian owner all proprietary rights.

6. The Government, for the purpose of exercising its power of regulation of commerce, is protected at all times by the law of property rights, that the riparian owner's right of user of the bed and stream for water power is subject to yield to the necessities of navigation.

Legislation should be carefully framed with a view to protecting and confirming the riparian right, and so as to avoid any invasion, direct or indirect, of the private property right of the riparian to make investments, and in investments already made.

There is a disposition and an avowed purpose in some quarters to urge the enforcement of legislative restrictions, conditional prohibitions, tolls and charges, against the riparian owner, with

a view to appropriating to the Government or the State that which really is revenue, or, in other words, a beneficial advantage from the use of water power. While this manifestly would be illegal if done directly, there is a disposition to accomplish the result indirectly by legislation enacted and enforced under the guise of navigation regulation. The attempt is, in substance, one to dispossess the riparian owner from certain rights and privileges, which, by his unqualified patents, passed to him, and no right to which was, impliedly or otherwise, reserved either to the Federal or State Government or to the public at large. The tendency is to disregard the sanctity of private property. With reference to such tendency, in the matters now under consideration, I wish to call attention to certain authorities.

It is often urged, and urged with respect to State and National legislation in regard to water power, that it would have been a better policy if, from the beginning, the Government had reserved, or if the States had reserved, some right of direct interest in these natural resources, which, admittedly, has not been done, where the riparian owner holds his land under a non-restricted patent or grant. Therefore, it is urged that, despite the fact that the courts have confirmed the right of the riparian to all the beneficial use of the water powers, the Federal and State Governments, through their legislatures, should restrict that beneficial use to the smallest limits. It is even urged that the legal limits governing riparian property rights should not be observed necessarily by the express terms of legislative enactment, but that the acts of Congress or of the State legislatures should, in terms, either directly or indirectly, assert in the Federal Government or in the State, the ownership or right of interest in such water power, and have such provisions enforced by the Courts, so far as possible. Or, if it is not done directly, it is urged that legislation should be upon the theory that such diminution of the established property right of the riparian can be accomplished, with financial benefit to the State, by imposing restrictions, tolls and charges, etc., and leaving it to the Court to draw the line between that which is enforceable against the riparian owner, and

that which is not. This has been the policy, apparently, of some of the legislation urged upon Congress. It has been, avowedly, the policy of certain State legislation, for example, Wisconsin. In the latter State, the 1911 Legislature passed a statute practically confiscating to the State all riparian rights in that State, and at the end of the act it was stated, in substance, that the legislature had gone, not only to the limit of its constitutional right, but, in many instances, probably beyond; and the Courts are asked to save to the State as much as they conscientiously could under the broad provisions which the Act contained.

Chap. 652 *Wisconsin Session Law* 1911.

[On January 30, 1912, the Wisconsin Supreme Court declared the statute last referred to unconstitutional. I should like to print that decision here in full and commend it to the careful attention of all legislators. See *People ex rel. Wausau St. Ry. Co. v. Bancroft, Atty. Genl.*, Northwestern Reporter, page 330.]

But against these tendencies and attempts indirectly to confiscate, note what the Courts say:

The United States Supreme Court recently said:

"The courts ought not to bear the whole burden of saving property from confiscation, though they will not be found wanting where the proof is clear. The legislatures and subordinate bodies, to whom the legislative power has been delegated, ought to do their part. Our social system rests largely upon the sanctity of private property, and that State or community which seeks to invade it will soon discover the error in the disaster which follows. The slight gain to the consumer, which he could obtain from a reduction in the rates charged by public service corporation, is as nothing compared with his share in the ruin which would be brought about by denying to private property its just reward, thus unsettling values and destroying confidence."

Knoxville v. Water Co., 212 U. S., 1, 18.

The Wisconsin Supreme Court had already said:

"Since the whole beneficial use of navigable lakes is unchangeably vested in the people, every one within the State having the right to enjoy the same so long as he does not invade the like right of another, without any interference by claim of paramount right to the subject thereof,

any law invading that individual possession is, in effect, an invasion of the right to liberty and property without due process of law, contrary to said fourteenth amendment. *Any such invasion for the purpose of adding to the public revenues, exacting from a person, for the benefit of the State, compensation for the enjoyment of a right which belongs to him and which he has a right to enjoy without paying therefor,* violates sec. 13, art. I, of the State constitution, prohibiting the taking of private property for public use without just compensation.

It is a matter of keen regret that we are compelled to place the stamp of judicial condemnation upon the work of co-ordinate branches of the government. That is true in any case, but it is especially true here, since it turns to naught a strongly fortified supposed new discovery of a rich source for adding to the revenues of the State ”.

Rossmiller v. State, 114 Wis., 169, 188.

In another case in Wisconsin, the State legislature attempted, by statute, to forbid the riparian owner from placing structures in the bed of a navigable river which did not interfere with navigation, but the Court declared the statute unconstitutional and void, as an attempt to interfere with the property right of the riparian owner. The Court said:

“ I cannot subscribe to the omnipotence of a state legislature, or that it is absolute and without control, although its authority should not be expressly restrained by the constitution or fundamental law of the State. * * * The nature and ends of the legislative power will limit the exercise of it. * * * There are certain vital principles in our free republican government which will determine and overrule an apparent and flagrant abuse of legislative power,—as to authorize manifest injustice by positive law, or to take away that security of personal liberty or private property for the protection whereof the government was established. An act of the legislature (for I cannot call it a law) contrary to the great first principles of the social compact cannot be considered a rightful exercise of legislative authority.”

Janesville v. Carpenter, 77 Wis., 288. 303.

The Wisconsin Supreme Court in the last case cites and quotes the language of the United States Supreme Court. Indeed, the words above quoted, were taken from the United States Supreme Court decision.

Calder v. Bull, 3 Dall., 387, 388.

In Michigan a similar attempt was made by the Legislature, by an arbitrary establishment of a dock line across riparian land, to exclude the riparian owner from improving for water power purposes a portion of the river which was not actually navigable; but the court set aside the Act as an infringement of the private right and said:

“The police power of *the Legislature* of this State is not omnipotent. It *cannot, under the guise of regulation, destroy property rights arbitrarily and without reason.*”

Grand Rapids v. Powers, 89 Mich. 94, 113.

Again, where the New York Legislature attempted, under the guise of public regulation for public purposes, to make restrictions upon the use by the private owner, which were not necessary to protect the public use of navigation, the New York Supreme Court said:

“The Legislature, except under the power of eminent domain, upon making compensation, can interfere with such stream only for the purposes of regulating, preserving, and protecting the public easement. Further than that, it has no more power over these fresh water streams than over private property. It may make laws for regulating booms, dams and bridges only so far as is necessary to protect and preserve the public easement, and when it goes further, it invades private rights protected under the constitution.”

Chenango Bridge Co. v. Paige, 83 N. Y. 179, 185.

These restrictions upon legislative action are recognized as well established:

“A statute making it unlawful to drive piles or build piers, cribs, or other structures in the bed of a private navigable river without regard to whether the same obstruct navigation was held invalid as depriving the riparian owners of their property without compensation and without due process of law.”

1 *Lewis on Eminent Domain*, sec. 70.

Any failure to keep legislation affecting private water powers within the constitutional authority of the Federal Government, is necessarily followed by results which are exceptionally harm-

ful, and which are the concrete indication of a most vicious legislative tendency. It indicates a disregard for the rights of the States as well as for the rights of private property.

Legislation affecting water powers which, either in terms or in effect, exceeds the limited and specific purpose for which the Federal Government has the power to legislate, and which goes beyond the exclusively sovereign power of control for the specific public purpose of navigation, arrogates to the Federal Government sovereign and proprietary rights, not only of legislation, but of ownership and control, which belong to the State. It is not only an encroachment upon the rights and jurisdiction of the States, but it becomes also a direct encroachment upon, and repugnant to, State policy, State laws, and State grants, already declared and enacted by such States pursuant to, and within the limits of, the authority and power belonging, under the Constitution, alone to such States.

But such legislation is not only paternalistic in the extreme. It has the effect also of diminishing or destroying the private property right of the riparian owner to the beneficial use of the easements legally belonging to his riparian land, a private property right vested by the common law of the State, which is the final judge as to the limits of such legal right. Such legislation, therefore, becomes confiscatory.

The wise policy is that, instead of stretching legislation against the riparian beyond, or even to, the limits of legal and constitutional restraints, the Government should do everything possible to encourage industrial development, and to insure to investors in such development the utmost security. The policy should be to encourage, rather than to discourage, financial investment, not only in water powers already developed, but in further development enterprises. The Government should not seem, even in terms, in any degree, to assert a right of control inconsistent with the known and established law of property rights. Legislation should not be with a view to putting as much burden as possible upon the riparian user of the water powers, even if such burden would inure to the advantage of the Government or of

the public. The object of such legislation should be to protect the property rights of the riparian to the fullest extent consistent with the actual necessities of navigation.

It is evident that a wise and considerate policy, one that takes into consideration the law of property rights of the riparian, as the same have been clearly established, will leave to him all the beneficial use of the water powers, and for all time, so far as can be done consistently with a proper and necessary improvement of navigable streams for commercial navigation. It is further evident that legislation cannot legally be based upon any purpose or desire of the Federal government to accomplish any object, directly or indirectly, with regard to such streams, except the one specified purpose of navigation, and that, even for the purpose of navigation, the lawful rights of the riparian to the beneficial use of the bed and waters, should be interfered with and damaged to the least possible extent consistent with the actual improvements reasonably necessary to make the stream navigable at the point where such riparian use is feasible.

I present the foregoing for the careful consideration of your Honorable Commission.

Respectfully submitted,

ROME G. BROWN.

November 28, 1911,

62D CONGRESS }
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LIMITATIONS OF FEDERAL CONTROL OF WATER POWERS

AN ARGUMENT

BEFORE

THE NATIONAL WATERWAYS COMMISSION

BY

HON. ROME G. BROWN

MINNEAPOLIS, MINN.

NOVEMBER 28, 1911



PRESENTED BY MR. ROOT

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LIMITATIONS OF FEDERAL CONTROL OF WATER POWERS.

By **ROME G. BROWN**, Minneapolis, Minn.

(Revised March 1, 1912.)

INTRODUCTORY.

In pursuance of its duties imposed by the Congress to "investigate questions pertaining to water transportation and the improvement of waterways, and to recommend to Congress such action as it may deem best on these subjects," your honorable commission has before it for consideration at the present time, as I understand it, that phase of the subject which pertains to powers of the Congress to make and enforce regulations and restrictions upon the development, by private riparian owners, of water powers existing in the navigable streams of the United States which are appurtenant to private riparian land on such streams. It is, presumably, the desire and object of this commission to make only recommendations for such legislation as shall be consistent with the constitutional powers of the Congress and with the constitutional and legal rights of the private riparian owners. I assume also that this commission will not necessarily extend its recommendations for legislation to the very limits which it may conclude as those defining the power of legislative action and enforcement, but that it will weigh and act upon considerations of expediency and policy.

Your recommendations upon this phase of the subject, then, must be based upon a careful consideration of two things: (1) The constitutional and legal limitations of the powers of the Congress, within which limitations, whatever they may be, must be measured any and all recommendations for legislative action, no matter that, independent of legal limitations, other legislation might seem to be for the advantage of the public; and (2) the question whether it is wise and expedient for Federal legislation to be extended, even to the limits of the constitutional powers of the Congress.

It is the consideration of these two questions to which I respectfully ask your attention. They are important to the public interests, as represented by the Federal Government and by the State Governments; they are important also to riparian owners, whose beneficial use of the water powers appurtenant to their lands is a private, vested property right, subject only to whatever paramount right the Federal Government or the State Governments, or both, may have in the waters and beds of such streams.

My interest in the matter is not solely professional, although I represent here the interests of various private riparian owners in Minnesota and other Western States, and also in New York and other Eastern States. I have also a personal interest, not financial, but as a student who has studied and written somewhat upon subjects pertaining to water rights, and whose object is to have this matter considered from a legal and scientific viewpoint, rather than from one which is partial and one sided.

There has been too much of the partial and one-sided discussion of this and allied phases of the subject of water rights, not only before the courts, but before National and State legislatures, before public commissions, and before the public in general. The partisan disputant for the public right ignores the private right; the partisan advocate of the riparian owner disregards the public right. From this clashing of ill-considered partisan views has arisen the seeming conflict in the early adjudications by the courts in this country as to the respective rights of the Governments, Federal and State, and of the private water-power owners. From the same cause have arisen the differences and inconsistencies of legislative policy from time to time, as evidenced by the varying enactments of the Congress and the State legislatures.

Another source of confusion in this country has been the necessity of applying the common law of England, where navigation, whether salt or fresh water, is coincident with the ebb and flow of the tide, to the large inland fresh water highways of this country. These and other sources of misunderstanding have, however, been largely eliminated by the more careful and scientific consideration of these questions presented in recent years to American courts; and the former conflict of views, which was the source of confusion, has been replaced by harmonious adjudications, so that the law on this phase of the subject of water rights has, as I believe, become settled, and has emerged in definite and reasonable form, without inconsistency and without confusion.

If I shall help this commission to a better appreciation of the rules of law upon this subject which have evolved in this country during the past century or more, and which are, as I believe, now established in comparatively concrete form, I shall have accomplished the object of my discussion.

SCOPE OF THIS ARGUMENT.

This question of the relation between public and private rights, with regard to water powers, is now pressing with unusual urgency. It is true that throughout this country there is scarcely any single subject which is so much in agitation, especially in the legislatures of the States and the Nation.

In the great streams of this country, while water-power development has been very extensive, there have lain and still lie immense potential energies never yet developed, because of former lack of facilities for transmission and transportation. Expense of development had to be confined to industries located directly at the water power. But the rapid growth of the country and the resulting increased demand for industrial development, and particularly the advance in the science of the development and distribution of electrical energy, have made feasible the development and operation of water powers, where before

impracticable. The demand for development extended suddenly, not only to private water powers, but to those appurtenant to lands held by the United States or the State governments which had not yet been passed to private ownership.

Among those subjects, concerning which the Government should apply a policy of conservation, are included water powers appurtenant to public lands. When consistently applied, such conservation policy is legal and expedient. Where the Government owns riparian land, it owns also all of the riparian rights appurtenant to that land; it has both the sovereign and the proprietary title. In passing such riparian land to private ownership, by patent or otherwise, it may legally and properly determine for itself its policy, and declare that policy by legislative enactment, as to whether it will grant the ordinary unqualified fee, or whether, by the grant itself, or by statutes the terms of which shall be part of the grant, it shall reserve to itself, as grantor, some interest of ownership or control, which, without such reservation, would pass to the grantee. Its power to do this is just as great as, and is no different from, that of any grantor in determining what shall be the extent and terms of a grant in any deed which he passes to a purchaser of any tract of land, riparian or otherwise. As to such Government riparian lands, it is within the discretion of the Congress to determine its policy and within its power to enact and enforce statutes declaring such policy. It saves or reserves to itself something out of that which it has, instead of passing the entire property to private ownership. It thereby acts within the limits of that which in fact is a policy of "conservation," and of that which only can properly be so termed.

But the question is entirely different where it arises between the Government on the one hand, and, on the other, the private owner of riparian land, who, with his predecessors, has long held the riparian land under unqualified grants or patents, by which the entire proprietary fee, with all the appurtenances belonging to that fee, has passed to private ownership. In the modern hue and cry about "natural resources," and the conservation thereof, this distinction is too often lost sight of. There is no right of title or right of interest belonging to the public, in every natural resource, arising because of the mere fact that it is a natural resource. The ownership, at least the right and the privilege of beneficial use, of a natural resource, whatever it may be, which is appurtenant to a tract of land, whether it be riparian or otherwise, belongs, where the land is held by private ownership, to the owner. Such ownership or right of use adds value to the land, and always is taken into consideration as an element of its value. It is the difference in such natural resources which makes largely the difference in the values of various tracts. The difference in value by reason of location or contour arises from just such differences of natural resources. Such is the difference between the high land and the low land; the difference between land with a soil of alkali sand, and land with a soil of fertile loam; between land in localities of great precipitation of rainfall, and that in localities of small precipitation; between land in proximity to, and that at a distance from, the natural or artificially made urban centers; or the difference in proximity to natural features, which, either alone or in connection with the land in question, may be used for scenic beauty or for industrial development. Such, and other natural resources,

and the advantage and value of their beneficial use and enjoyment, are an essential part of the land, and as such, belong to the owner of the land.

Such a natural resource is a water power. In its unutilized state it consists of two factors, both of which are a part of and appurtenant to the riparian land: (1) The natural flow of water over or past the land in question of sufficient quantity and constancy to make its use feasible in connection with the second factor; (2) a natural slope, or head and fall, of the land itself or of the bed of the stream adjacent to the land sufficient in extent so that in connection with the first factor, quantity of water, it may under all the circumstances involve a feasible development for power purposes. These two factors, which go to make up a possible water-power development, are each natural features, natural resources, but they are features peculiar to the land upon or appurtenant to which they exist, and as such, together with their beneficial use, belong to that land and therefore to the owner thereof, whether before or after actual development or utilization by mechanical or artificial means. The advantage, value, and financial benefits of water powers naturally appurtenant to riparian land belong to the riparian owner, as I shall demonstrate. There is no more basis in law or in reason for attempting to deprive him of such privilege or the beneficial use thereof when once he has acquired his riparian land by an unqualified fee by imposing restrictions upon him or by appropriating to the Government for the public benefit a part of the proceeds derived from such beneficial use by the riparian owner, on the ground that it arises from a "natural resource," than there would be to impose restrictions and to levy in behalf of the general public upon a private owner of agricultural land a tribute graduated according to the amount of rainfall his farm might receive, or based upon the percentage of fertility per acre, and to attempt to justify such a restriction or tribute, in addition to taxes based upon fair assessment values upon the fact that his advantages result from "natural resources." Conservation—the reserving of that which one has—is legal and proper, but the attempted appropriation of any beneficial use or the proceeds or advantage thereof from another which has passed to the latter in private ownership is not conservation; it is confiscation.

Let it be understood, therefore, that what I say refers to riparian lands held in private ownership and has nothing to do with the policy of conservation in the proper sense of that term.

There is another part of a possible scope in this discussion which I wish to eliminate, failure to recognize which distinction has been and still is the source of much confusion of this subject. When I speak of a "riparian owner," I shall refer only to riparian land situated in those States in this country which have retained as part of their law of property the common law of riparian rights. I shall not refer to land in those far Western States where the law of riparian rights has been repudiated and where the well-defined law of "appropriation" prevails. In these latter States it has been established as a rule of property governing riparian land that mere priority of occupation or appropriation gives rights superior to those of the riparian owner in the beneficial use of the waters and the beds of streams, whether such appropriation is made upon or adjacent to riparian lands owned by

the Government or those passed to private owners. Not all riparian rights, as such are defined in the common law, are lost by such appropriation; but generally speaking the riparian-right law does not prevail in those jurisdictions. The custom of appropriation evolved into the law of property in those States, and as such has been confirmed by the Congress and the Federal Supreme Court as applicable to lands there situated, the rule of law having been established by the local jurisdictions and having become the common law of those States through adjudications of their own courts. (Act of Congress of July 26, 1866, ch. 262, U. S. Comp. St., 1901, p. 1437; *Lux v. Haggin*, 69 Cal., 255; *Meng v. Coffey* (Nebr.), 93 N. W., 713; *Simmons v. Winters*, 21 Oreg., 35; *Isaacs v. Barber*, 10 Wash., 124; *Land & Canal Co. v. Ditch Co.*, 18 Colo., 1; *Farm I. Co. v. Carpenter*, 9 Wyo., 110; *Wilterding v. Green*, 4 Idaho, 773; *Smith v. Denniff*, 24 Mont., 20; *Boquillas Land & Cattle Co. v. J. N. Curtis et al.*, 213 U. S., 339. See also Farnham on "Waters.")

This very distinction has been overlooked by many who have assumed to limit the private riparian right in jurisdictions retaining the riparian common law, on the basis of decisions in nonriparian-right States. At the very outset, however, it should be noted that the Federal statutes and decisions recognizing this distinction are founded upon the rule, hereafter further discussed, that the extent and limit of the proprietary rights of the riparian owner are determined by the local laws of each State, as shown by the decisions of the highest courts of such State, for the reason that, subject to the sovereign control by the Federal Government for a specified purpose only, the sovereign and proprietary rights in the control and beneficial use of the waters and beds of navigable streams have passed out of Federal control to the States or to private owners, or to both.

Speaking, then, only of the relations between the Federal Government and private owners, holding lands in jurisdictions where the common law of riparian rights prevails, let us determine what is the dividing line between the legal property rights of the riparian and the constitutional right of control by Federal authority.

I. THE POWER AND AUTHORITY OF THE FEDERAL GOVERNMENT ARE EXPRESSLY LIMITED TO A SOVEREIGN POWER OF REGULATION FOR THE SPECIFIC PURPOSE OF NAVIGATION. ALL OTHER INTEREST, POWER, AND AUTHORITY, BOTH SOVEREIGN AND PROPRIETARY, BELONG TO THE STATES OR TO INDIVIDUALS.

Obviously the rights to the waters and the beds of navigable streams and to their usufruct are of two classes: (1) Those which include all proprietary interests and all elements of proprietary interest, and (2) those which exclude proprietary rights, but include all rights belonging to the Government, Federal or State, by virtue of its sovereignty. The distinction is that between private and public right—the distinction of *jus privatum* and *jus publicum*.

It is manifest that the right of the individual riparian owner can not include any right included in the second class; while, considered as a possibility independent of existing law, the sovereign power might possess not only the sovereign right of control for public use, but also a proprietary interest.

There are also, manifestly, three possible holders of these rights: (1) The Federal Government; (2) the State governments; and (3) the private riparian owner.

While a consideration of the relations between State and private control, as established by law, will further confirm and illustrate the limitations of Federal control, let us first examine what are the limitations between one branch, Federal control, on the one side, and the two other branches, State and private control, on the other.

The decisions next cited below demonstrate certain propositions which are fundamental, but the adjudications as to all three of which are so interwoven that we state the propositions and at the same time cite the authorities thereto. These propositions are:

1. That the authority for Federal control of fresh navigable streams and waters in the United States, which at the same time defines and limits such control, arises solely from that power which has been expressly reserved to the United States by the Federal Constitution—the power to regulate commerce between the several States and foreign nations.

2. That this power of control was expressly reserved to the Federal Government by the States originally adopting the Federal Constitution, and by all States since admitted under that Constitution; and, subject to this specific power so reserved in the Federal Government, there has passed over to those States, upon their entry into the Union, all powers and interest, whether of ownership or of control, now or formerly belonging to the Federal Government, in the beds and waters of such navigable streams, and the Federal Government has since retained, and still retains, either as against any claim by a State or by an individual riparian, or both, only the specific paramount right of control for the specific and limited purpose of commerce—that is, of navigation. Moreover, this Federal power of control is purely a sovereign power of control for a specified public use, and does not include, and can not be extended to, any element of a proprietary right or interest.

3. That, subject to this purely sovereign right of control of navigation, all right, title, and interest, sovereign and proprietary, belongs to the States or to individual riparian owners, or both; and it is not within the Federal authority or power, either judicial or legislative, to fix or determine, as between a State and an individual owner, the limitations between State and individual ownership or control of water powers. The rights and obligations, as between a State and an individual owner, are fixed by the law of property as established by the decisions of the State supreme court in the State in question. This law of property, as so fixed in any State, is, as to streams in that State, binding upon the Federal Government and its Supreme Court.

It is an elementary proposition that nobody, whether sovereign or individual, owns the waters themselves of a running stream. The right, whether it be of sovereign or of subject, is simply to the beneficial use of the waters as they naturally flow. It is the usufruct. (2 Blackstone, 18; *Sweet v. City of Syracuse*, 129 N. Y., 316.)

And this is true both as against the sovereign and the subject whether the stream be intrastate, interstate, or an international boundary. (*U. S. v. Chandler Dunbar Co.*, 209 U. S., 447; *Niagara County v. College Heights Co.* (N. Y.), 111 App. Div., 770; *People ex rel., etc., v. Smith*, 70 App. Div., 543; *Affd.*, 175 N. Y., 469.)

In a Minnesota case, in treating of the rights of riparian owners along the Mississippi River, the United States Supreme Court said:

We are of opinion that the property rights of the plaintiffs in error, as riparian owners, are to be measured by the rules and decisions of the State courts of Minnesota. This principle, we think, has been announced and adhered to by this court from its very early days, and no distinction has been made between the rights of the original States and those which were subsequently admitted to the Union under the provisions of the Federal Constitution. The provisions of the act of Congress, already cited (act of Feb. 26, 1857, ch. 60, sec. 2, 11 Stat., 166), making the Mississippi River a common highway for the inhabitants of the State and all other citizens of the United States, do not impair the title and jurisdiction of the State over the navigable waters within her boundaries more than rights of that nature are limited with regard to the original States. This has been uniformly held and is so stated in many of the cases hereinafter cited where similar language has been used in the acts admitting States into the Union.

Preliminarily, it may be said that the Mississippi River at the point in question is a navigable stream. In order to be navigable it is not necessary that it should be deep enough to admit the passage of boats at all portions of the stream. * * *

In *Martin v. Waddell* (16 Pet., 367) it was held that when the American Revolution was concluded the people of each State became themselves sovereign, and in that character held the absolute right to all their navigable waters and the soils under them for their own common use, subject only to the rights since surrendered by the Constitution to the General Government. The action was ejection for 100 acres of land covered with water in Raritan Bay, in the township of Perth Amboy, in the State of New Jersey. The claim of the plaintiff was founded upon the charters of Charles II to his brother, the Duke of York, in 1664 and 1674, for the purpose of enabling him to plant a colony on the Continent of America, the land in controversy being within the boundaries of the charters and in the territory which now forms the State of New Jersey. Those letters patent, as construed by this court, conveyed to the Duke of York all the prerogatives and powers of government residing at the time of their execution in the King of Great Britain, and passed from the jurisdiction of Great Britain to the people of each State after the Revolution. Although the question in that case arose in regard to lands covered with water in Raritan Bay, yet the principles upon which the case was decided have been stated to apply to the rights of the States in regard to all navigable waters within their jurisdiction.

In *Pollard v. Hagan* (3 How., 212) the question arose in regard to the rights of the State of Alabama in the shores of navigable waters and the soils under them within her limits. The sixth section of the act of Congress passed on the 2d of March, 1819 (3 Stat., 492, c. 47), for the admission of the State of Alabama into the Union, provided: "That all navigable waters within the said State shall forever remain public highways, free to the citizens of said State and of the United States, without any tax, duty, impost, or toll therefor imposed by said State." It was held that the Government of the United States did not by reason of that enactment possess any more power over the navigable waters of Alabama than it possessed over the navigable waters of other States under the provisions of the Constitution, and that Alabama had as much power over those navigable waters as the original States possessed over the navigable waters within their respective limits. It was also held that the shores of navigable waters and the soils under them were not granted by the Constitution of the United States, but were reserved to the States, respectively, and the new States had the same rights, sovereignty, and jurisdiction over the subject as the original States.

In *Goodtitle v. Kibbe* (9 How., 471) the decision of this court in *Pollard v. Hagan*, *supra*, was referred to and affirmed, and it was said that by the admission of the State of Alabama into the Union that State became invested with the sovereignty and dominion over the shores of the navigable rivers between high and low water mark, and that after such admission Congress could make no grant of land thus situated.

In *Barney v. Keokuk* (94 U. S., 324) it was recognized as the law that the title and rights of riparian proprietors upon the banks of the Mississippi were to be settled by the States within which the lands were included. Mr. Justice Bradley, in stating the opinion of the court in that case, said (at p. 338): "And since this court in the case of *The Genesee Chief* (12 How., 443) has declared that the Great Lakes and other navigable waters of the country, above as well as below the flood of the tide, are, in the strictest sense, entitled to the denomination of navigable waters, and amenable to the admiralty jurisdiction, there seems to be no sound reason for adhering to the old rule as to the proprietorship of the beds and shores of such waters. It properly belongs to the States by their inherent sovereignty, and the United States has wisely

abstained from extending (if it could extend) its survey and grants beyond the limits of high water. The cases in which this court has seemed to hold a contrary view depended, as most cases must depend, on the local laws of the States in which the lands were situated. In Iowa, as above stated, the more correct rule seems to have been adopted after a most elaborate investigation of the subject."

It was also said by the same learned justice in speaking of the English idea of navigable waters being necessarily tidewaters: "It had the influence for two generations of excluding the admiralty jurisdiction from our great rivers and inland seas; and under the like influence it laid the foundation in many States of doctrines with regard to the ownership of the soil in navigable waters above tidewater at variance with sound principles of public policy. Whether, as rules of property, it would now be safe to change these doctrines where they have been applied, as before remarked, is for the several States themselves to determine. If they choose to resign to the riparian proprietor rights which properly belong to them in their sovereign capacity, it is not for others to raise objections. In our view of the subject the correct principles were laid down in *Martin v. Waddell* (16 Pet., 367), *Pollard's Lessee v. Hagan* (3 How., 212), and *Goodtitle v. Kibbe* (9 How., 471). These cases related to tidewater, it is true; but they enunciate principles which are equally applicable to all navigable waters."

In *St. Louis v. Myers* (113 U. S., 566) this court held that the act of March 6, 1820 (3 Stat., 545), admitting the State of Missouri into the Union, left the rights of riparian owners on the Mississippi River to be settled according to the principles of State law. Mr. Chief Justice Waite, in delivering the opinion of the court, said: "The act of Congress providing for the admission of Missouri into the Union (act of Mar. 6, 1820, c. 22, 3 Stat., 545), and which declares that the Mississippi River shall be 'a common highway and forever free,' has been referred to in the argument here, but the rights of riparian owners are nowhere mentioned in that act. They are left to be settled according to the principles of State law."

In *Packer v. Bird* (137 U. S., 661) it was held that as the highest court of California had decided that the Sacramento River being navigable in fact, a title upon it extends no farther than to the edge of the stream, this court would accept that decision as expressing the law of the State. That case asserted the right of each State to determine the extent of the title and of the rights of riparian owners in waters within the territory of the States. It was also stated that the Federal courts must construe grants of the General Government without reference to the rules of construction adopted by the States for grants by them, but that whatever incidents or rights attached to the ownership of property conveyed by the United States bordering on navigable streams would be determined by the States in which it is situated, subject to the limitation that their rules do not impair the efficacy of the grant, or the use and enjoyment of the property by the grantee. It was further said that: "As an incident of such ownership the right of the riparian owner, where the waters are above the influence of the tide, will be limited according to the law of the State, either to low or high water mark, or will extend to the middle of the stream."

It does not impair the efficacy of the grant or the use and enjoyment of the property by the grantee to hold that riparian rights are to be decided by the State courts, inasmuch as the grant, if by the Federal Government, has been held in the cases already cited not to include title over navigable waters within or bounded by the States.

In *Hardin v. Jordan* (140 U. S., 371) it was held that grants by the United States of its public lands bounded on streams and other waters, made without reservation or restriction, are to be construed, as to their effect, according to the law of the State in which the lands lie, and that it depends upon the law of each State to what extent the prerogative of the State to lands under water shall extend. In the opinion, after stating that the title to the shore and lands under water is in the State and is regarded as incidental to its sovereignty, it is said: "Such title being in the State, the lands are subject to State regulation and control, under the condition, however, of not interfering with the regulations which may be made by Congress with regard to public navigation and commerce. * * * Sometimes large areas (of land) so reclaimed are occupied by cities and are pfit to other public or private uses, State control and ownership therein being supreme, subject only to the paramount authority of Congress in making regulations of commerce and subjecting the lands to the necessities and uses of commerce" (citing cases). Continuing, the court said: "This right of the States to regulate and control the shores of tide water and the land under them is the same as that which is exercised by the Crown in England. In this country the same rule has been extended to our great navigable lakes, which are treated as inland seas; and also, in some of the States, to navigable rivers, as the Mississippi, the Missouri, the Ohio, and, in Pennsylvania, to all the permanent rivers of the State,

but it depends upon the law of each State to what waters and to what extent this prerogative of the State over the land under water shall be exercised."

Mr. Justice Brewer, in his dissenting opinion (p. 402) in the above-cited case, which was concurred in by Mr. Justice Gray and Mr. Justice Brown, agreed: "That the question how far the title of a riparian owner extends is one of local law. For a determination of that question the statutes of the State and the decisions of its highest court furnish the best and the final authority." And the dissent was based upon the theory that although the right of the State to determine this matter was not questioned in the prevailing opinion, there was, nevertheless, error committed by the majority of the court in refusing to follow a decision of the State court on the very question then under review, and in following instead thereof previous decision of the State court inconsistent therewith.

In *St. Louis v. Rutz* (138 U. S. 226, 242), cited in the dissenting opinion above referred to, it was said by Mr. Justice Blatchford, in delivering the opinion of the court: "The question as to whether the fee of the plaintiff, as a riparian proprietor on the Mississippi River extends to the middle thread of the stream, or only to the water's edge, is a question in regard to a rule of property which is governed by the local law of Illinois."

In *Kaukauna Water Power Co. v. Green Bay & Mississippi Canal Co.* (142 U. S., 254) Mr. Justice Brown, in delivering the opinion of the court, said at page 271: "It is the settled law of Wisconsin, announced in repeated decisions of its Supreme court, that the ownership of riparian proprietors extends to the center or thread of the stream, subject, if such stream be navigable, to the right of the public to its use as a public highway for the passage of vessels (citing cases). In *City of Janesville v. Carpenter* (77 Wis., 288, 300) it is said of the riparian owner: 'He may construct docks, landing places, piers, and wharves out to the navigable waters, if the river is navigable in fact, but if it is not so navigable he may construct anything he pleases to the thread of the stream, unless he injures some other riparian proprietor, or those having the superior right to use the waters for hydraulic purposes. * * * Subject to these restrictions, he has the right to use his land under water the same as above water. It is his private property under the protection of the Constitution, and it can not be taken, or its value lessened or impaired even for public use, "without compensation," or "without due process of law," and it can not be taken at all for anyone's private use.' With respect to such rights, we have held that the law of the State, as declared by its supreme court, is controlling as a rule of property." (*Water Co. v. Water Board*, 168 U. S., 358-365.)

The court then goes on to discuss the case of *Shively v. Bowlby* (152 U. S., 1), where the Federal court had occasion to pass upon a decision of the Supreme Court of Oregon, restricting the rights of private riparian owners in lands under water and extending the corresponding rights of the State. This case is often cited as authority for the general rule of proprietary interest of the State or Government in the beds of waters of navigable streams, and as an adjudication of such rule by the Federal Supreme Court. Under the circumstances of the case, however, the truth of the propositions to which we are now citing authorities is doubly confirmed by that decision. The decision was on the principle as stated, that, excepting only the Federal right of control under the constitutional authority to regulate commerce, all the rights of ownership and beneficial use in the beds and waters of navigable streams passed to the State, and that this is true, whether it be one of the original States or one since admitted, and that it was for the State, by its courts, to determine the relations and respective rights between the State and the individual riparian. The Federal decision in the case of *Shively v. Bowlby* was based entirely upon this principle. Speaking of that case, the United States Supreme Court, in the case last cited, said:

In *Shively v. Bowlby* (152 U. S., 1) it was again said that the new States admitted into the Union since the adoption of the Constitution have the same rights as the original States in the tide waters and in the lands under them within their respective jurisdictions. It was also remarked that, upon the question, how far the title of the owner of the land extends bounding upon a river actually navigable, but above the

ebb and flow of the tide, there is a diversity in the laws of the different States, and that the title and rights of riparian or littoral proprietors in the soil below high-water mark are governed by the laws of the several States, subject to the rights granted to the United States by the Constitution. The suit was in the nature of a bill in equity brought to quiet title to lands below high-water mark in the city of Astoria, the question involving the rights in navigable waters as between the State and others. The opinion at page 57 states as follows: "By the law of the State of Oregon, therefore, as enacted by its legislature and declared by its highest court, the title in the lands in controversy is in the defendants in error; and, upon the principles recognized and affirmed by a uniform series of recent decisions of this court above referred to, the law of Oregon governs the case." The opinion refers to all the cases which we have above cited and many others, upon the various questions which are discussed in the case, and recognizes the rule that it belongs to the States to decide as to the character and extent of the riparian rights of owners upon navigable waters within such States.

It is true that in these various cases the exact point in controversy in this case in regard to the rights of the State as against riparian owners has not arisen. The dispute has generally been as to the extent and character of the title as between the United States or the State and the riparian owner to lands under water, and as to the right of the riparian owner to build out from the shore piers or wharves so as to reach the navigable portion of the stream; but the principles laid down in all these cases necessarily include the right of the State courts to decide, as a matter of local law, the point now under discussion, subject to the acknowledged jurisdiction of the United States under the Constitution in regard to commerce and the navigation of the waters of rivers. The jurisdiction of the State over this question of riparian ownership has been always, and from the foundation of the Government, recognized and admitted by this court. (*Water Co. v. Water Board*, 168 U. S., 365-366.)

The reasons stated by the United States Supreme Court why private ownership was excluded from the beds of navigable rivers in this country, contrary to the common law of England, are as follows:

It is, indeed, the susceptibility to use as highways of commerce which gives sanction to the public right of control over navigation upon them, and consequently to the exclusion of private ownership, either of the waters or the soils under them. (*Packer v. Bird*, 137 U. S., 661, 667.)

And, after stating the effect of the original grants as above stated, the United States Supreme Court held that each State could by its local law give further rights of property and user to riparian owners—that is, that the private right of ownership or use could by the local law of the State be extended—saying:

The courts of the United States will construe the grants of the General Government without reference to the rules of construction adopted by the States for their grants; but whatever incidents or rights attach to the ownership of property conveyed by the Government will be determined by the States, subject to the condition that their rules do not impair the efficacy of the grants or the use and enjoyment of the property by the grantee. As an incident of such ownership the right of the riparian owner where the waters are above the influence of the tide will be limited, according to the law of the State, either to low or high water mark, or will extend to the middle of the stream. (*Packer v. Bird*, 137 U. S., 661, 669-670.)

After stating the general rule as it exists without any change by local law of the State, the court further says:

Whether as rules of property it would now be safe to change these doctrines where they have been applied, as before remarked, is for the several States themselves to determine. If they choose to resign to the riparian proprietor rights which properly belong to them in their sovereign capacity, it is not for others to raise objections. (*Packer v. Bird*, 137 U. S., 661, 671.)

This principle was affirmed in a later case that came up to the United States Supreme Court from Wisconsin, where, in order to determine the claim made by certain riparian owners that their property rights had been taken away without due process of law, and where, therefore, it was necessary to determine what their property

rights were, the United States Supreme Court held that such rights of property and user must be determined by reference to the decisions of the Supreme Court of Wisconsin upon that subject, on the principle, as stated in that case, as follows:

With respect to such rights, we have held that the law of the State, as declared by its supreme court, is controlling as a rule of property. (*Barney v. Keokuk*, 94 U. S., 324; *Packer v. Bird*, 137 U. S., 661; *Hardin v. Jordan*, 140 U. S., 371.) (*Kaukauna Co. v. Greenbay Co.*, 142 U. S., 254, 272.)

In the *Hardin* case, with reference to the same question, the Supreme Court had said:

It depends on the law of each State as to what waters and to what extent this prerogative of the State (the prerogative originally left to the State when the State was organized) over the lands under the water shall be exercised. In the case of *Barney v. Keokuk* (94 U. S., 324) we held that it is for the several States themselves to determine this question, and if they choose to resign to the riparian proprietor rights which properly belong to them in their sovereign capacity, it is not for others to raise objections. (*Hardin v. Jordan*, 140 U. S., 371, 382.)

And in the same case, quoting with approval, the court said (p. 395):

By the common law all waters are divided into public waters and private waters. In the former the proprietorship is in the sovereign; in the latter, in the individual proprietor. The title of the sovereign being in trust for the benefit of the public, the use, which includes the right of fishing and of navigation, is common. The title of the individual being personal in him, is exclusive, subject only to a servitude to the public for purposes of navigation if the waters are navigable in fact. * * * And all the cases in which waters above the ebb and flow of the tide, such as great inland lakes and the larger rivers of the country, are held to be public in any other sense than as being subjected to the public for purposes of navigation are confessedly a departure from the common law.

In the same case, remarking upon an opinion by a Federal judge that it would seem to be "unfair and unjust to allow a party to claim and hold against his grantor the bed of the lake, containing thousands of acres, solely on the ground that he had bought and paid for the small surrounding fractional tracts—the mere rim," the United States Supreme Court said (p. 397):

We do not think that this argument *ab inconvenienti* is sufficient to justify an abandonment of the rules of the common law, which, as we have shown, have been adopted in Illinois as the law of the land. It is too much like judicial legislation. It is as much as to say: "We think the common law might be improved, and we will, therefore, improve it."

In *Fallbrook Irrigation District v. Bradley* (164 U. S.) there was presented to the United States Supreme Court the following facts (p. 159):

A certain constitutional provision of California provides as follows:

Water and water rights, section 1.—The use of all water now appropriated or that may hereafter be appropriated for sale, rental, or distribution is hereby declared to be a public use and subject to the regulation and control of the State in the manner to be prescribed by law. (Constitution of California, art. 14.)

A further act of the legislature, to carry out those constitutional provisions, provides as follows:

The use of all water required for the irrigation of the lands of any district formed under the provisions of this act, together with the rights of way for canals and ditches, sites for reservoirs, and all other property required in fully carrying out the provisions of this act, is hereby declared to be a public use, subject to the regulation and control of the State in the manner prescribed by law.

Referring to those constitutional and statutory provisions, the United States Supreme Court said (p. 159):

The Supreme Court of California has held in a number of cases that the irrigation act is in accordance with the State constitution, and that it does not deprive the land-owners of any property without due process of law; that the use of the water for irrigating purposes under the provisions of the act is a public use, and the corporations organized by virtue of the act for the purpose of irrigation are public municipal corporations organized for the promotion of the prosperity and welfare of the people. (*Turlock Irrigation District v. Williams*, 76 California, 360; *Central Irrigation District v. De Lappe*, 79 California, 351; *In re Maders Irrigation District*, 92 California, 296.)

The claim was made that these decisions of the Supreme Court of California not only fixed the property rights of riparian owners, but also determined finally the Federal questions as to whether the enforcement of those acts constituted due process of law; and, referring to this claim, the United States Supreme Court said:

We do not assume that these various statements, constitutional and legislative, together with the decisions of the State court, are conclusive and binding upon this court upon the question as to what is due process of law and, as incident thereto, what is a public use. As here presented these are questions which also arise under the Federal Constitution, and we must decide them in accordance with our views of constitutional law.

In other words, that the law of property rights of the riparian owner, as against any infringement by statutory or constitutional provisions, would be determined by the common law of the State as such common law was established by the decisions of the highest court in that State. But when it came to the determination of the question as to whether those property rights as so established were, by some statute or by some constitutional provision of the State, attempted to be taken away or diminished, without due process of law, that was a question which must be decided "in accordance with our view of the constitutional law"; that is, in accordance with the view of the United States Supreme Court.

In the case of *Kansas v. Colorado* (206 U. S.), decided in 1907, the court held that the riparian rights in any particular State were to be ascertained by the common law of that State relative to those rights, as such common law was established by the decisions of the highest court in that State. And, in commenting upon this, the United States Supreme Court quoted the definition of Chancellor Kent, in answer to the question "What is the common law?" as follows (p. 96):

The common law includes those principles, usages, and rules of action applicable to the government and security of persons and property which do not rest for their authority upon any express and positive declaration of the will of the legislature.

And then the United States Supreme Court, immediately following this definition of what is the common law which fixes property rights, said (pp. 96-97):

As it does not rest on any statute or other written declaration of the sovereign, there must, as to each principle thereof, be a first statement. Those statements are found in the decisions of courts, and the first statement presents the principle as certainly as the last. Multiplication of declarations merely adds certainty. For after all, the common law is but the accumulated expressions of the various judicial tribunals in their efforts to ascertain what is right and just between individuals in respect to private disputes.

In accordance with this principle, this case of *Kansas v. Colorado* was decided against the complaint of Kansas, because the United States Supreme Court found, from an examination of the decisions

of the Supreme Court of Kansas, that the State of Colorado, with reference to the diversion of the waters of the Arkansas River, for irrigation, had not done anything which infringed the rights of the riparian owners in the State of Kansas. In other words, it found that the property rights of the riparian owners in Kansas were by the law of Kansas, as established by the decisions of the Kansas Supreme Court, subject to the diversions complained of, whether the same had been made in Colorado or in Kansas.

All these cases show this: (1) That no declaration by constitutional provision or by legislative act can affect the vested property rights of riparian owners; and (2) that such property rights of riparian owners are fixed and determined by the common law of the State and that that common law is established by the decisions of the supreme court of that State upon the subject matter.

In every case where the question of taking the riparian owner's rights by some State statute has been brought before the United States Supreme Court, in order to determine whether such statute was repugnant to the United States Constitution on the ground that it was a law of the State taking property without due process of law, in all such cases the United States Supreme Court has first considered as to what were the limitations upon the rights of property and user belonging to the riparian owner in the State in question. And in determining those rights, it has invariably done so by examining the common law of the State, as established by the decisions of the supreme court of that State. There is absolutely no exception. Further proof of this proposition is given if one will examine the many cases which have gone up to the United States Supreme Court from those far western States where the law of "appropriation" of waters for irrigation and mining purposes prevails, and where the common law of riparian rights has never been recognized. It has often occurred that the riparian owners in those States have brought suits based upon claims of the usual riparian rights—claims for injunction or damages by reason of diversions of water from the stream above them for irrigation or mining purposes. These were diversions which would not be allowed in a State having the usual law of riparian rights. The first question examined and determined by the United States Supreme Court in these cases is: What is the right of property and user belonging to the riparian owner in that State? And this question has been answered by them invariably by an examination of the decisions of the highest court of that State. (*U. S. v. R. G. Irrigation Co.*, 174 U. S., 690, 704-705; *Broder v. Water Co.*, 101 U. S., 274, 276; *Boquallis Land & Cattle Co. v. Curtiss*, 213 U. S., 339).

In the last case the common-law doctrine of riparian rights was held not to obtain in the Territory of Arizona, not by reason of certain statutes so declaring, but because, by the decisions of the supreme court of the Territory rendered before and after those statutes were passed, the doctrine of appropriation had become part of the common law of that Territory.

Thus all proprietary rights in or to the beneficial use of the beds and waters of navigable streams have passed out of Federal ownership or control, and belong either to the States or to the private individual riparian, or both. There has also passed to the States all sovereign

power of control, for all purposes, save only the sovereign power of control expressly reserved to the Federal Government by its constitutional authority to regulate commerce. The Federal power to regulate commerce extends to these navigable, fresh-water streams solely by virtue of the fact that they are susceptible of commercial use. They are natural highways of commerce, and they are classed as navigable, for the purpose of such control, regardless of the fact that, at exceptional points, their natural state may not permit of continuous navigation.

The important point here is to note that the United States Supreme Court has expressly established every proposition above stated to be demonstrated in this part of the discussion.

The Federal constitutional control contains no element of a proprietary nature. It is purely a sovereign power of control for a specific public purpose; it is a power in trust; it is created and limited by express terms in the Federal Constitution. More than that, it is created by a reservation, without which, expressly stated, the power reserved would have been left in or have gone to the respective States. Under these circumstances of the origin of the power and of its basis and nature it can not be divested nor alienated, and within its proper limits is paramount. For the same reasons also it can not be extended to the exercise of powers or authority beyond the limits reasonably necessary to the exercise of the specified constitutional power. Any such extension of its limits would be not only ultra vires, but would lead to encroachments upon the rights, privileges, powers, and authority of the States (or their subjects) to whom all interests, except the specific power expressly reserved, have been transferred. It would lead also to encroachments upon private-property rights of individual riparian owners.

The extent and damage of such possible encroachment can be understood only by a review of the limitations between the rights of the State and those of the private riparian.

II. LIMITATIONS BETWEEN STATE AND INDIVIDUAL CONTROL OF WATER POWERS.

These limitations, as we have already seen, are determined by the States and are established by the adjudications of the State supreme courts upon these questions. There was formerly, as I have said, great diversity, even conflict, in the different States upon this question, but in recent years adjudications have covered this field of study so thoroughly and clearly that, without substantial exception, the rules of law obtaining in those States which have the common-law riparian rights—which include all States not holding to the law of appropriation—as above shown, are fixed, as in Minnesota and in New York. We will thus take one example from the West and one from the East and establish, by the adjudications in these States, the following propositions:

1. The title and power of control by the State over the beds and waters of navigable streams are not in any degree proprietary in nature or extent. They are limited to a holding in trust, as a sovereign, for the specific purpose of protecting a public use, to wit, navigation and certain allied public uses.

2. The title and the power of the State are subject only to the Federal paramount power of control, as established and defined as above demonstrated. They are limited also by the private proprietary right of the riparian as fixed by the law of the State.

3. The private riparian owner owns and retains all and the only proprietary title, right, and interest either to the beds and waters of such streams or to the usufruct thereof. He has the proprietary right to the beneficial use of the flow of the waters in connection with the natural head and fall upon or opposite his riparian land and to the whole thereof; he has a proprietary right to utilize the bed and waters for the development of power and for the operation of water-power plants. This right belongs to him *jure naturæ*; that is, because it is a natural resource and right belonging to and appurtenant to his riparian land and a part thereof. And this private proprietary right is subject only to the sovereign right of control by the Federal and State Governments for the public use of navigation.

4. As between the State and the riparian owner, the sovereign power of control of the former ends where the proprietary right of the latter begins and the private right exists up to the point beyond which it would be inconsistent with the specific and limited public right. This private proprietary right of the riparian is the same, whether the title to the bed of the stream, either below high-water or below low-water mark, is said to be held by the State or by the riparian. The attempted distinction between the riparian rights, on the basis of the riparian's having a mere easement instead of a title, is, so far as these questions are concerned, purely speculative.

Much confusion has been brought about by the differences in the extent to which different States have released to the riparian owner the naked title in the bed of navigable streams. I shall point out hereafter more specifically that, so far as their substantial effect on the property right of the riparian owner is concerned, these distinctions are really without any difference, bearing in mind that the "property right" of the riparian owner includes not merely that which is covered by his naked fee, whether that fee be limited to the shore or extends to the middle of the stream, but includes all vested property rights of usufruct, all rights of beneficial use which are appurtenant to his fee title. This will be shown by the following cases, where it will be shown also that the right of the State is limited to the mere power of control for the public use of navigation, including allied public interests, like fishing, and in Minnesota alone (56 Minn., 485) including the use for public water supply.

FROM THE LEADING MINNESOTA CASES.

In *Lamprey v. State* (52 Minn., 181) Judge Mitchell said (p. 198):

In this State we have adopted the common law on the subject of waters, with certain modifications suited to the difference in conditions between this country and England, the principal of which are the navigability in fact and not the ebb and flow of the tide is the test of navigability, and that we have repudiated the doctrine that the State has any private or proprietary right (as had the King) in navigable waters, but that it holds them in its sovereign capacity, as trustee for the people, for public use.

Many years ago the English Government established a "Thames conservancy act," giving to a certain commission the power to control water power and other uses of the Thames. Under that act the

commission (conservators) attempted to assert a right of control over the beneficial use by the riparian owner of his riparian rights, which the House of Lords held could not be done, and Lord Selbourne held:

The rights of a riparian proprietor, so far as they relate to any natural stream, exist *jure nature*, because his land has by nature the advantage of being washed by the stream. (*Lyon v. Fishmongers Co.*, 1 L. R. A. App. Cas., 662, cited by the Minnesota court.)

In 1876 the Minnesota Supreme Court held that, with regard to a riparian owner's rights in a navigable stream and to occupy the bed of the stream by structures in order to obtain advantage of the beneficial use of the waters in the bed of the stream to which he was entitled as riparian owner, such rights are—

Subordinate and subject only to the navigable rights of the public and such needful rules and regulations for their protection as may be prescribed by competent legislative authority. The rights which thus belong to him as riparian owner of the abutting premises are valuable property rights of which he can not be divested without consent, except by due process of law, and, if for public purposes, upon just compensation. (*Brisbane v. R. R. Co.*, 23 Minn., 114.)

The Lyon case is among those cited by Judge Gilfillan in 1879, when he held with reference to water powers upon the Mississippi River:

As it seems to us, none of these opinions state the right too strongly. If the right exists *jure nature*, because the land has, by nature, the advantage of being washed by the stream, it is impossible to see how any such distinction as defendant claims can be made as to the peculiar uses which the riparian owner may make of the waters. The limit to the private right is imposed by the public right, and the private right exists up to the point beyond which it would be inconsistent with the public right.

We think the right in the riparian owner to put the water to any useful purpose may be sustained by considerations of public policy. It is certainly for the interests of the public that where the waters of a navigable stream may, without interfering with the public right, be put to some useful purpose, the right to so use them should exist.

We will state the rule at which we have arrived nearly in the language of the court in *People v. Tibbetts* (19 N. Y., 523): The riparian owner may undoubtedly use, for any purpose, the water of a navigable stream passing or adjoining his land, for his own advantage, so long as he does not impede the navigation, in the absence of any counterclaim by the State or United States. (*Morrill v. St. Anthony Falls W. P. Co.*, 26 Minn., 222, 228.)

In the same year an attempt was made at Minneapolis to assess developed water powers as personal property. In a decision holding that they were part of the real estate, the Supreme Court of Minnesota said:

In the recently decided case of *Morrill v. St. Anthony Falls Water Power Co.*, ante, (p. 222), we had occasion to consider the question of the rights of riparian proprietors upon the Mississippi River. The general rule arrived at was that a riparian owner may use the waters of a navigable stream adjoining his land, for any purpose, for his own advantage, so long as he does not impede navigation, and in the absence of any counterclaim by the State or the United States. As the riparian owner has this right to the use of the water, he has a right to enjoy it and make it available; otherwise, his right would be a worthless abstraction. He may, therefore, subject to the limitations of the general rule before stated, use the bed of the stream, if necessary or convenient to the enjoyment of his right to the use of the water. He may erect dams there, and such other structures as will promote and facilitate the enjoyment of this right. For these purposes the riparian proprietor may properly be said to have, if not an interest, certainly a right, in the bed of the stream itself. The right of a riparian proprietor upon a navigable stream, such as the Mississippi, rests, as is held by this court, in the case above cited, upon the fact of riparian ownership; that is to say, the riparian proprietor possesses this right because he owns the land upon the bank; and this is equivalent to saying that the right is attached as an incident to the riparian land, and belongs and appertains to the same. * * * The defendant is the owner

of the bank; and of the right to the use of the water, and, therefore, of the right to make his right to the use of the water available by using the bed of the stream. In the defendant's hands the riparian land, and the right to the use of the water, and to the use of the bed of the stream, are held together. The principal, which is the riparian land, draws to it the incident, which is the right to the use of the water, so that the latter is part and parcel of the former. (*State v. Minneapolis Mill Co.*, 26 Minn., 229, 231.)

Riparian land is now assessed upon the basis of two values: (1) The value of the land as such and (2) the value of the water power, developed or undeveloped, which is appurtenant thereto, so that water powers now can be and are taxed.

In the Morrill case above quoted from it was held that "the limit to the private right is imposed by the public right"; and later the Minnesota courts fixed the nature and limits of the public right. In 1892 the court held:

It has been decided over and over again by this court that the right of the riparian owner to improve, reclaim, and occupy the submerged land in front of his shore estate to the point of navigability is a vested property right, which can not be taken away, even by the State for a public use, without compensation. (*Brisbane v. St. Paul & Sioux City R. R. Co.*, 23 Minn., 114; *Union Depot, etc., Co. v. Brunswick*, 31 Minn., 297 (17 N. W. Rep., 626); *Hanford v. St. Paul & Duluth R. R. Co.*, supra). The old common law doctrine, or at least what has been generally assumed to be such, and which was adopted in some of the early American colonies, that the crown has a *jus privatum* or right of private property, in navigable waters and their shores, which it could alienate to a subject, has no place in the jurisprudence of this State. It is the settled law with us that the rights of the State in navigable waters and their beds are sovereign, and not proprietary, and are held in trust for the public as a highway, and are incapable of alienation. (*Union Depot, etc., Co. v. Brunswick*, supra; *Hanford v. St. Paul & Duluth R. R. Co.*, supra; *Bradshaw v. Duluth Imperial Mill Co.*, 52 Minn., 59; cited and approved in *Gilbert v. Emerson*, 55 Minn., 259.)

Thus it is determined that the State had no proprietary interest either in the waters or the bed or in the use of the same. It is simply a sovereign interest to protect the waters and bed for navigation uses which are paramount to the rights of the riparian owner.

These public uses are clearly defined, and do not to any degree include the right of the State, in any capacity, to appropriate to itself any right, interest, income, or control of water powers appurtenant to private property, either developed or undeveloped, so far as such attempt at appropriation is made for the purpose of giving to the State any benefits in the natural energy or beneficial use of such water powers.

Judge Gilfillan held that the most important public use for the protection of which the State had a right of control was that of navigation.

In 1893, in discussing the paramount public uses, Judge Mitchell held that in Minnesota a proper division of streams, instead of dividing them into navigable and nonnavigable, should be a division into public and private waters, and that the public uses which might be protected by the control of the State should include not only navigation, but also fishing, bathing, and cutting ice. (*Lamprey v. State*, 52 Minn., 181, 200.)

Next to navigation, the most important public use which is paramount in Minnesota is that of diversion by cities for public water supply. (*Mill Co. v. St. Paul Water Works*, 56 Minn., 485.)

It is apparent that the building and operation of a dam by a riparian owner for the utilization of his water power can not interfere with the exercise of the public right to take out waters for public water supply

and that the only effect of such public use would be to some extent to diminish the flow of water. So also such construction and maintenance by a riparian owner could not interfere with fishing or cutting ice, but would rather facilitate such public use. Fishways in dams are already provided for by statutes, both State and Federal. The only limitation under the law of property to the absolute right to the riparian owner to utilize the water power appurtenant to his land by the construction and maintenance and operation of dams and water-power plants is that they should be constructed and maintained so as not to interfere with navigation, and if such interference be made, then the State, exercising its sovereign right of control for the protection of navigation, may prevent such interference. This is the entire extent of the right of the State in navigable waters so far as such right is paramount to the riparian owner's vested property right to the entire natural energy and beneficial use of the waters which flow over or past his lands or which lie adjacent to it.

Therefore, subject only to the control by the State for these specified public uses, navigation, water supply, fishing, etc., the riparian owner has absolute right to all the natural energy and beneficial use of the waters as they pass over or by his land. The fact that he owns the fee only to low-water mark does not affect these riparian rights which are his property rights.

In this State it is the settled doctrine that the riparian owner has the fee to low-water mark. (*Schurmeier v. St. Paul & Pacific R. Co.*, 10 Minn., 59 (82); *Brisbine v. St. Paul & Sioux City R. Co.*, 23 Minn., 114.) But while he has only the fee to low-water mark, he has certain riparian rights incident to the ownership of real estate bordering upon a navigable stream. Among these are the right to enjoy free communication between his abutting premises and the navigable channel of the river, to build and maintain suitable landings, piers, and wharves, on and in front of his land, and to extend the same therefrom into the river to the point of navigability, even beyond low-water mark, and to this extent exclusively to occupy for such and like purposes the bed of the stream, subordinate only to the paramount public right of navigation. (*Dutton v. Strong*, 1 Black, 22; *Railroad Co. v. Schurmeier*, 7 Wall., 272; *Yates v. Milwaukee*, 10 Wall., 497, *supra*; *Rippe v. Chicago, D. & M. R. Co.*, 23 Minn., 18; *Brisbine v. St. Paul & Sioux City R. Co.*, *supra*.) These riparian rights are property, and can not be taken away without paying just compensation therefor. The State could not do it or authorize anyone else to do it. (*Yates v. Milwaukee*, *supra*; *Lyon v. Fishmongers Co.*, L. R. 1 App. Cas., 662; *Brisbine v. St. Paul & Sioux City R. Co.*, *supra*; *Union Depot Co. v. Brunswick*, 31 Minn., 297.)

This law of property right was again asserted in 1890:

In this State the title of the proprietor of lands abutting upon navigable waters extends to low-water mark; the bed of the stream or body of water, below water mark, being held by the State, not in the sense of ordinary absolute proprietorship, but in its sovereign government capacity, for common public use. *Union Depot, etc., Co. v. Brunswick* (31 Minn., 297; 17 N. W. Rep., 626), and cases cited. The estate of interest of the riparian owner in the bed of the stream above low-water mark is subject to the right of the public to use the same for the purposes of navigation; but restricted only by that paramount public right, the riparian owner enjoys valuable proprietary privileges, among which we shall consider particularly the right to the use of the land itself for private purposes. A considerable extent of the shores, not only along tide waters of the ocean coasts, but on our great inland waters, are of such a nature, out to and even beyond low-water mark, as to be in general unavailable by the public for the purposes of navigation and must remain forever waste and useless lands unless reclaimed by artificial means from the shallow water covering them, or unless otherwise improved. It is established beyond question in this State, and in other States as well, that the proprietor of the riparian lands may make such improvement. Subject only to the limitation that he shall not interfere with the public right of navigation, he has the unquestionable and exclusive right to construct and maintain suitable landings, piers, and wharves into the water and up to the point of navigability for his own private use and benefit. * * * As the right of private

use and enjoyment of the improved or reclaimed premises will continue so long, at least, as it does not interfere with the limited and defined public interests, it is obvious that in general it may continue forever.

This private right of use and enjoyment is not, we think, limited to purposes connected with the actual use of the navigable water, but may extend to any purpose not inconsistent with the public right. * * *

This right of the riparian proprietor, even before it has been in any manner exercised by reclaiming or improving the premises, the right itself to reclaim, improve, or occupy, is a property right vested in him, recognized and protected in the law as property. He can not be deprived of it without due process of law. It can not be taken from him and devoted to public use without compensation. * * *

These peculiar property rights of the riparian owner constitute, estimated in connection with the riparian land, the chief value of the premises. It may even be that the whole value of such real property consists in the right to improve and occupy the submerged lands for private purposes. The extent of the riparian right in this respect is not measured by the value of the upland nor by the distance to which the owner's estate may extend inland from the shore. The barest strip of upland, though wholly valueless and useless in itself, justifies the owner in the exercise and enjoyment of the privilege of riparian proprietorship to the fullest extent.

* * * * *

We have thus considered that the riparian proprietor has the exclusive right—absolute as respects everyone but the State, and limited only by the public interests of the State for purposes connected with navigation—to improve, reclaim, and occupy the submerged land, out to the point of navigability, for any private purpose as he might do if it were his separate estate; that this right, even though it may never have been exercised, is recognized and protected by law as property, of which he can not be deprived even by the State without just compensation.

Hanford et al. v. St. Paul & Duluth R. R. Co. (43 Minn., 104).

In 1898, referring to the dam built by a riparian owner on the Red Lake River, the supreme court, in an opinion written by Judge Mitchell, holds that that river is a navigable stream, and, referring to the rights of riparian owners, says:

The fact that the plaintiff did not obtain any license to build the dam does not render it unlawful. A riparian owner has a right, without license, to construct a dam across a stream which does not obstruct or interfere with the navigation of the stream for the purposes for which it is navigable. This is a right which is appurtenant to the ownership of the bank. (*Kretzschmar v. Meehan et al.*, 74 Minn., 211, 215.)

In 1909, referring to a dam built and maintained by a riparian owner on the Snake River, the Supreme Court, after holding that that river was a navigable stream, said, with reference to the riparian owner's rights to build and maintain a dam:

So far as the State was concerned, the owner of the bank was at liberty to construct and maintain the dam so long as it did not constitute an interference with the navigable rights of the public in the stream, and the State had no authority to authorize the construction of a dam across the river without providing for compensation to all parties who might be damaged thereby. It is the well-settled law of this country that the legislature can not authorize the flooding of lands without compensation to the owner, and the right to flood land by extending a dam across such streams may be acquired by adverse possession for the statutory period. A riparian owner has the right, without license, to construct a dam which does not obstruct or interfere with the navigation of the stream. This is a right which is appurtenant to the ownership of the bank. (*Simons v. Munch*, 107 Minn., 370, 372.)

Again, in 1904, in a case upon the Red Lake River at Crookston, Sprague, a log driver, was using the stream for navigation purposes, for driving his logs. He was holding his logs by a boom just above the dam of the Crookston Water Works, Power & Light Co., and, on the theory that, as navigator, he had paramount rights, and that the dam was an illegal obstruction to such navigation for logs, he let his logs down in a bunch, so that they did not go through the sluices provided for them, but went over the crest of the dam and smashed

the dam. The company sued him for damages. He claimed as a principle defense that the dam had not been constructed by any license from the State or the United States Government, and that it was an illegal structure, as the Red Lake River was a navigable stream. But the Supreme Court held that as the Crookston company was a riparian owner, it had the right, without any license, to construct and maintain the dam and that Sprague was liable for his negligence in not using the sluices provided in the dam for logs. The court said:

Subject to the control of Congress in proper cases and independently of statute, the right of riparian owners to construct, maintain, and operate dams upon rivers and streams in this State, is firmly established by the decisions of this court. (*Crookston W. W. P. & L. Co. v. Sprague*, 91 Minn., 461, 467.)

In the last above three decisions we have the rule of property rights, which we have stated belong to the riparian owner, brought down to date and affirmed as the law of property rights in this State. The riparian owner has a right to build and to maintain his water-power dam, without any franchise or license from the State; because his right so to do is "appurtenant to the ownership of the bank." He has this absolute right with the only limitation that his structure shall not interfere with navigation. That right belongs to him entirely by reason of the fact of his riparian ownership. He is not obligated to get a license from the State even though the obligation to obtain a license is imposed by statute. More than that, as shown by the case next to last above, the State itself has not such an interest in the bed or waters of a stream that it can build a dam, or authorize the construction of a power dam in the river adjacent to the land of a riparian owner, or by any such structure flood or injure the land of a riparian owner, "without providing for compensation to all parties who might be injured thereby."

These rules defining the rights of riparian owners in Minnesota have been recognized and affirmed by the United States Supreme Court, for the reason, as shown above, that the rule of the property right of the riparian owner is determined by the decisions of the State supreme court. (*Water Power Co. v. Water Board*, 168 U. S., 360, quoted from at length above.)

Perhaps the most thoroughly considered case in regard to the Minnesota law is found in a recent decision by Judge Morris, of the United States district court, and affirmed by the circuit court of appeals in an opinion where the reasoning and conclusions of Judge Morris were approved. In that case an island had formed in the bed of the Mississippi River at Minneapolis opposite the riparian land of the plaintiff Hobart. The city, through Hall, claimed the island by grant from the State, on the ground that the State held the title to the bed and therefore acquired a proprietary interest in the islands formed in the bed. This brought up the entire question of the relations between the State and the riparian owner, and Judge Morris reviews the decisions and the law, which he summarizes as follows:

That where there is no reservation, express or from the circumstances necessarily implied, in a grant of lands bounded by a stream navigable in fact, like the Mississippi River, the grantee takes the absolute title in fee to high-water mark or at furthest to low-water mark; that the State has title to the soil or land under the water, between the edge of the stream and the middle thread thereof, in its sovereign capacity, in trust for the public, for the purpose of preserving, protecting, and improving the

public right of navigation; that such right or title of the State is paramount for that purpose, but it is not proprietary or one under which it can alienate or convey any portion of said soil or land under water, or any island formed thereon, to a stranger, but is a limited title or ownership, limited to that purpose and extending no further; that the riparian owner has also a right or title to such soil or land under water, between the edge of the stream and the middle thread thereof, which, though subject and subordinate to this title of the State, is proprietary and exclusive as to all others than the State or the General Government, and even as to the State or General Government exclusive except as they may act by their properly constituted authorities in protecting, preserving, or improving said public right, and which he can convey to another in whole or in part; that the limit to this private right is imposed by the public right, and by that only, and the private right exists up to the point beyond which it would be inconsistent with the public right, and with that only, and that such public right can only be exercised by the State, or, where the stream can be used for purposes of interstate commerce, by the General Government, through its properly and constituted authorities; that under this right of title the riparian owner or his grantee has the exclusive right to reclaim, occupy, and use, for any purpose not inconsistent with the public right, such soil or land under water, or any part thereof, out to the middle thread of the stream, or certainly to the main navigable channel thereof, subject only to such paramount right of the State or of the General Government; that under this right or title such riparian owner or his grantee has the exclusive right, subject only to such paramount right of the State or General Government, to occupy and use, for any purpose not inconsistent with such public right, any island or part thereof between his shore line and the middle thread of the stream, whether such island exists at the time of the survey and is omitted therefrom in good faith and without palpable mistake or is afterwards formed by the gradual action of the waters, and as against all others than the State or the General Government, acting under the paramount authority above referred to, he has the exclusive right to the possession thereof. (*Hobart v. Hall*, 174 Fed. Rep., 433.)

This decision of Judge Morris in the *Hobart* case was affirmed, and his conclusion and the reasoning which was the basis thereof expressly approved by the circuit court of appeals. The appellate court held that the State has no proprietary interest in the bed of the stream, but—

"holds the bed in its sovereign capacity in trust to protect for the public the right of free navigation;" and that, subject only to this public trust, "a riparian owner, under a Government patent * * * has the right of possession and use of the bed of the stream between low-water mark and the navigable channel." (*Hall v. Hobart* (decided April, 1911), 186 Fed. 426; 108 C. C. A. Rep., 348.)

Another recent United States case confirms the rule already shown that no proprietary interest in the beds of navigable streams has been reserved by the United States Government, whether such streams are intrastate or boundary streams, and, further, that the riparian owner has the entire proprietary title and interest, and that the extent of that proprietary title is determined by the law of the State. In Michigan the naked title of the riparian owner extends to the center of the stream, and the question of title of such riparian owner upon the Sault Ste. Marie River arose. The United States Supreme Court said:

A patentee of Government land bordering on the Sault Ste. Marie takes to the center line * * * Nor are the rights of riparian owners to the center affected by the fact that the stream is a boundary. (*U. S. v. Chandler-Dunbar Co.*, 209 U. S., 447.)

SO, THE NEW YORK CASES.

With reference to the Niagara River, the New York court in 1906 held—

1. The State has no property or ownership in the waters of the Niagara River within the provision of the Constitution in question, although it has dominion over the same and power to regulate the use and diversion thereof and encroachments thereon as

navigable waters of the State. (*Sweet v. City of Syracuse*, 129 N. Y., 317, 334; *Waller v. State*, 144 id., 579, 599.)

So far, therefore, as the act may be said to appropriate the water of the river, it does not violate the provision of the Constitution in question.

2. The only question remaining is whether the act permitted the construction of conduits, etc., necessary to take the water from the river so as to appropriate any property in the bed of the river in violation of such constitutional provision. The State was in a certain sense the owner of the bed of the river. It held the title, not as a proprietor but as a sovereign, in trust for the public. (*Saunders v. N. Y. C. & H. R. R. Co.*, 144 N. Y., 75, 85.; *Niagara County I. & W. S. Co. v. College Heights L. Co.*, 111 App. Div., 770, at p. 772.)

In a case involving riparian rights upon the Hudson River, it was held that the riparian rights belonged to the owner of the riparian land—

as against all but the State, as trustee for the people at large. (*People v. Mould*, 37 App. Div., 35, 39.)

In a later case, upon the Niagara River, the Niagara Falls Hydraulic Power & Manufacturing Co. was the owner of certain riparian lands upon the Niagara River, in the city of Niagara Falls, and had constructed and was operating a hydroelectric plant, taking and discharging water for water-power purposes opposite its riparian land. In addition to whatever rights to such development and beneficial use it had as riparian owner, it acquired by grant from the State of New York the right to use the land in the bed of the river opposite its riparian land, together with the privilege of using the waters for power. Subsequent to 1900 the city assessor included in the assessment values the company's water rights and the right to take water from the Niagara River for power purposes, making the total assessment \$825,000, of which the larger part was admittedly in excess of the proper assessment upon the company's plant exclusive of the value of the beneficial use of the bed and waters of the river. The company contested the assessment on the ground that this excess of valuation was an assessment upon a franchise and did not properly cover property rights belonging to the company exclusive of the franchise. This contention was repudiated in the following language:

The position of the relator is, that its right to draw water from the Niagara River is a franchise and as such not assessable; that the assessment of its property as a whole, including such water rights, is illegal; that its property, for all purposes of assessment, must be treated as though no water right or privilege was attached to and used in connection therewith; that the true basis for assessment is the cost of reproducing the relator's property, exclusive of any water right.

The relator, as a riparian owner and as owner of the lands under the waters of the Niagara River adjacent to its uplands from which the water is immediately taken, has the right to the use of the waters of the river for manufacturing purposes, and to divert the same for that purpose, returning them to the river, as it does, after passing over its own lands. (*Gould on Waters*, 3d ed., sec. 213; *People v. Tibbetts*, 19 N. Y., 523; *People v. Canal Appraisers*, 33 N. Y., 461; *Chenango Bridge Company v. Paige*, 83 N. Y., 178; *Smith v. Rochester*, 92 N. Y., 480; *Groat v. Moak*, 94 N. Y., 115; *Sweet v. City of Syracuse*, 129 N. Y., 336); subject only to the paramount right of the State to utilize these waters for a public use, without compensation to such riparian owners, all riparian rights remaining unimpaired until the exercise of such paramount right by the State. This being so, it appears that the relator, as riparian owner, had the right to take waters from the Niagara River for manufacturing purposes, not interfering thereby with the navigability of the stream, such right being in no sense in the nature of a franchise but a corporeal hereditament, not depending either upon grant or prescription. This subject is fully discussed in chapter 6 of *Gould on Waters*, 3d ed., at page 393, to which reference is made. And this view of the relator's rights is confirmed by the act of 1896 above quoted, which in terms conforms and defines the riparian rights of the relator and is wholly inconsistent with the claim of the relator as

to the nature thereof. The fact that the State might destroy relator's riparian rights does not convert such right into a mere franchise. Interference with the relator's rights by the State is a contingency too remote to require serious consideration.

We learn from the map in evidence that Niagara River at all points affected by the exercise of the relator's rights is an unnavigable stream and will so remain; and when it is considered that not even the State is at liberty to interfere with the riparian rights of the relator arbitrarily, but that such interference if attempted must be in the interest of some substantial right of the State affected by the exercise of the right of the relator to use the waters of the river, the claim of the relator appears to be wholly unfounded. (*People v. Mould*, 37 App. Div., 35.)

Having reached the conclusion that the relator, in the use of the waters of the river, is in the enjoyment of its riparian rights acquired before 1896, and confirmed by the act of the legislature of that date, it becomes unnecessary to examine the other questions argued by both the relator and the defendants. In reaching this conclusion the cases cited by the relator have been carefully examined and the arguments in support of its contention fully considered, and no benefit could result from considering the same further in this opinion. (*People ex rel. Niagara Falls P. & M. Co. v. Smith*, 70 App. Div., 543; *affd.* 175 N. Y., 469.)

In a leading New York case it was said:

It is a principle recognized in the jurisprudence of every civilized people from the earliest times that no absolute property can be acquired in flowing water. Like air, light, or the heat of the sun, it has none of the attributes commonly ascribed to property and is not the subject of exclusive dominion or control. As Blackstone observes (2 Bl. Com., 18): "Water is a movable, wandering thing, and must of necessity continue common by the law of nature; so that I can have only a temporary, transient, usufructuary property therein." While the right to its use, as it flows along in a body, may become a property right, yet the water itself, the corpus of the stream, never becomes or, in the nature of things, can become the subject of fixed appropriation or exclusive dominion in the sense that property in the water itself can be acquired, or become the subject of transmission from one to another. Neither sovereign nor subject can acquire anything more than a mere usufructuary right therein, and in this case the State never acquired, or could acquire, the ownership of the aggregated drops that comprise the mass of flowing water in the lake and outlet, though it could and did acquire the right to its use. (*Sweet v. City of Syracuse*, 129 N. Y., 335.)

In the case of *Smith v. Rochester* (92 N. Y., 474), cited in the *Syracuse* case, it was said, with reference to a diversion of water from Hemlock Lake, a navigable body of water, which diversion was for the purpose of a public water supply for the city of Rochester:

The defense proceeds upon the theory that Hemlock Lake, being a navigable body of water, as such with its bed belongs to the State, and that the State possessed the consequent right of authorizing the appropriation of the water by its agents or grantees for any public use without regard to the rights of individuals who may have previously acquired proprietary interests therein. * * *

It seemed to be assumed upon the argument that the rights of the State in the waters of Hemlock Lake depended upon the ownership of the soil under its bed, and the question whether the title of riparian owners by the rules of common law included the land to the center of the bed of the adjoining navigable body, or was restricted to the water's edge. We do not think this is necessarily so, but conceding the claim for the present let us examine that position. This question has occasioned some diversity of opinion in this country and had led to conflicting and apparently irreconcilable decisions in our courts. It would be a vain and useless effort to attempt to harmonize the divergent views on the subject, but we believe that a doctrine may be evolved from the authorities which will accord with the great weight of judicial opinion in this country and still preserve such property rights as have been acquired and have grown up under the authority of diverse decisions. We have arrived at the conclusion that all rights of property to the soil under the waters of Hemlock Lake were acquired by and belong to its riparian owners, while such rights only over its water belong to the State as pertain to sovereignty alone. * * *

It now remains to consider the nature of the rights of property which pertain exclusively to sovereignty and which do not pass to the grantee under a conveyance of the soil bordering upon and adjoining fresh-water navigable lakes and rivers. It may be premised that the mere right of eminent domain always and from necessity resides in the sovereign. It is declared by statute that the State, by virtue of its sovereignty,

is deemed to possess the original and ultimate property in and to all lands within the jurisdiction of the State. (3 R. S. (7th ed.) 2162, sec. 1; *People v. Fulton F. Ins. Co.*, 25 Wend., 219; *People v. Denison*, 17 id., 312; *De Peyster v. Michael*, 6 N. Y., 467; *People v. Van Rensselaer*, 9 id., 319.) This right confers upon the State the title to such property as may be forfeited or escheated, or the title to which for any reason fails, and also the right to resume the ownership and possession of such property as may be required or rendered necessary for public purposes. (*Varick v. Smith*, 5 Paige, 143, 159; *Matter of Albany St.*, 11 Wend., 149; *Morgan v. King*, 35 N. Y., 454.) Among other rights which pertain to sovereignty is that of using, regulating, and controlling for special purposes the waters of all navigable lakes or streams, whether fresh or salt, and without regard to the ownership of the soil beneath the water. This right is known as the *jus publici* and is deemed to be inalienable. * * *

The rule of common law is concisely stated in the note above referred to as follows: "Rivers not navigable—that is, fresh rivers of what kind soever—do of common right belong to the owners of the soil adjacent to the extent of their land in length. But salt rivers, where the tide ebbs and flows, belong of common right to the State. That this ownership of the citizen is of the whole river, viz, the soil and the water of the river, except that in his river where boats, rafts, etc., may be floated to market, the public have a right of way or easement."

It may, however, be stated in passing, that it is generally conceded that this doctrine is inapplicable to the vast fresh-water lakes or inland seas of this country or the streams forming the boundary lines of States. (*Canal Commissioners v. People*, 5 Wend., 446; *Tibbetts Case*, supra.) Whatever conclusion may, therefore, be reached with reference to the ownership of the bed of Hemlock Lake, it still remains that the State had certain rights in its waters and so far as the same were alienable the defendant has succeeded to them. It may, also, be affirmed that if the term "navigable water" as used in England was ever there for any purpose wholly restricted to the waters which were affected by the ebb and flow of the tide, it has by common consent a more enlarged signification in this country and is here held to mean all such waters as are actually navigable, whether fresh or salt. When it is considered that the rights and interests of the public, such as fishing, ferrying, and transportation, are preserved in all navigable waters by the inherent and inalienable attributes of the sovereign, it would seem to follow that the controversies which have arisen over the nominal ownership of the soil under such waters have been magnified beyond the real interests involved. This becomes still more apparent when we consider the character and extent of the property which may in the nature of things be acquired and enjoyed in running water. "*Aqua curret debet currere.*" Neither sovereign nor subject can have any greater than a usufructuary right therein, and even this is subject to the temporary enjoyment of the riparian proprietors over whose lands it passes while on its way to its final destination, undiverted and undiminished, save for domestic or manufacturing purposes. (3 Kent's Com. 439; *Tyler v. Wilkinson*, 4 Mason, 397.) Thus all land covered by running water is subject to a servitude, either dominant or servient, and all interest in such water is simply an easement, incapable of fixed appropriation or conversion. (1 Stephens' Blackst., 169; Washb. on Easements, 200.)

Then after an examination of the earlier decisions the court said:

These cases, therefore, can not be considered as authority upon the question here presented. We are, therefore, of the opinion not only that the State had no right to grant to the city of Rochester the use of the waters of Hemlock Lake, to the detriment of the riparian owners upon the banks of the stream formed by its outlet, but that their rights were recognized and provided for by the act under which the defendant assumes to justify its acts. (*Smith v. Rochester*, 92 N. Y., 463.)

And, again, in another case pertaining to riparian rights upon navigable streams, the New York court said:

The owner of land bounded upon a navigable river has property rights therein, i. e., the right of access to the navigable part of the stream and the right to construct a landing or wharf, and where a railroad company, although acting under legislative authority, has constructed its road across the water front of such owner and thus has deprived him of access to the navigable part of the stream, unless he has granted the right or it has been obtained by eminent domain, he is entitled to recover his damages.

It seems, however, this rule may not be extended so as to interfere with the right of the State to improve the navigation of the river, or with the power of Congress to regulate commerce. (*Rumsey et al. v. The New York and New England Railroad Company*, 133 N. Y., at page 79.)

If there has ever been any doubt that the New York law excluded any element of proprietary interest in the State in the bed of navigable waters, or that all such proprietary title and right of usufruct belonged to the riparian owner, such doubt was finally set at rest by the recent case of *Brookhaven v. Smith* (188 N. Y., 74). After a most elaborate discussion, in which F. R. Coudert, Esq., presented an argument against the doctrine of any proprietary title or right in the sovereign or State, the New York court held that the common-law doctrine of *jus privatum* in the State has no place in the jurisprudence of this country. Said the court:

The adoption by the people of this State of such parts of the common law as were in force on the 20th day of April, 1777, does not compel us to incorporate into our system of jurisprudence principles which are inapplicable to our circumstances and which are inconsistent with our notions of what a just consideration of those circumstances demands. The common law of England upon the subject of the rights of riparian owners has but an imperfect application to the situation in a State like this, with its numerous large navigable bodies of waters, and bays, rivers, and inland lakes (citing cases). To borrow the language of Judge Bronson in his opinion in *Starr v. Chile* (20 Wend., 149), "no doctrine is better settled than that such portions of the law of England as are not adapted to our conditions form no part of the law of this State." (*Brookhaven v. Smith*, 188 N. Y., 74. See also "Riparian rights and *stare decisis*," by F. R. Coudert, *Columbia Law Review*, March, 1909.)

As shown above, the sovereign rights, whether of the State or of the Federal Government, are based and their extent measured as such sovereign rights of control are based and measured in the case of highways. As said by the Minnesota Supreme Court:

Riparian owners on navigable waters hold their lands subordinate to the public use of such waters, if such use is reasonably exercised, precisely as do the owners of lands abutting on any other highway. (*Doucette v. Little Falls Co.*, 71 Minn., 206.)

So the United States Supreme Court, quoting and approving Chancellor Kent, says:

Under the common law the public easement of navigation bears a perfect resemblance to public highways. (*Grand Rapids Co. v. Butler*, 159 U. S., 87.)

So again the Minnesota Supreme Court declares that the riparian owner of lands abutting on the Mississippi River holds them subordinate to the sovereign rights in "a legally declared public highway." (*Rippe v. Railway Co.*, 23 Minn., 18, 23.)

The sovereign rights of the State and of the Federal Government are so limited and so far from proprietary in their nature that they can not be leased or alienated:

The rights of the State in navigable waters and their beds are sovereign, and not proprietary, and are held in trust for the public as a highway, and are incapable of alienation. (*Bradshaw v. Mill Co.*, 52 Minn., 59).

The sovereign is trustee for the public and the use of navigable waters is inalienable. (*Kent's Commentaries*, 427.) * * *

It is true that navigable waters and their beds are incapable of absolute alienation. (*Miller v. Mendenhall*, 43 Minn., 95, 101, 104.)

Again:

Neither the State nor the municipality within which the property is situated has any proprietary interest in it which either of them can sell or divert to any use inconsistent with the purposes of the dedication or grant. The State holds such land merely in its sovereign capacity, in trust for the public and for the purposes for which it was dedicated. If the legislature should attempt to divert it, or to authorize its diversion, the property would not revert to the donor or the public easement be extinguished. The act of the legislature would be a mere nullity. (*City of St. Paul v. Railway Co.*, 63 Minn., 330.)

And again:

But, as the State's right or title to such property is only an easement which it holds in trust for a public use, the legislature can not divert it or subject it to an inconsistent use of a private nature, nor can it authorize municipal authorities so to divert it. * * * Any legislation authorizing such action would be clearly unconstitutional and void. (*Sanborn v. Van Dyne*, 90 Minn., 223.)

On the other hand, the riparian rights in navigable streams appurtenant to riparian lands are separable and leases or grants to the title and right of usufruct may be made by the riparian owner and proprietor:

It is the settled doctrine of this court that the right of the riparian proprietor upon navigable waters, to reclaim, improve and occupy submerged land out to the line of navigability may be separated from the shore land; and be transferred to and enjoyed by persons having no interest in the original shore. (*Gilbert v. Emerson*, 55 Minn., 254.)

And in the *Hanford* case above quoted from at length, after defining riparian rights, the court said:

Those rights partake largely of the ordinary qualities of private property, which is in general divisible and transferable by the proprietor. (*Hanford v. Railway Co.*, 43 Minn., 104.)

At this point I wish to call particular attention to the fact that there has been much confusion and there is still much confusion, caused by the varying holdings in different States as to the extent of the naked fee in the bed of navigable streams held by the riparian owner, and to emphasize the rule that these variations do not make any difference as to what is really the property right of the riparian owner to the beneficial use of the bed and waters for water power.

III. THE PROPERTY RIGHTS OF THE RIPARIAN OWNER ARE NO MORE AND NO LESS IN STATES WHERE THE TITLE TO THE BED IS RETAINED IN THE SOVEREIGN THAN IT IS WHERE THAT TITLE BELONGS TO THE RIPARIAN OWNER.

It has already been shown that, even in States where the unqualified fee of the riparian owner stops at high-water mark, he has a property right to the use of the bed and the waters of the stream for power purposes, and that such property right of use is an easement belonging to him; in the same States, although the naked title is held by the State, it is a limited holding for specific purpose—a holding in a sovereign capacity, in trust for the public use for navigation. It has also appeared that the elements of the public right so defined mark the beginning of the private riparian right. Where one begins the other leaves off and vice versa. Now, the public right is just as great and is no greater in States where the naked fee passes to the center of the stream and belongs to the riparian owner. In both classes of States when there is once fixed the extent of the sovereign power of control of the State for the specific purpose of navigation—and it is just as extensive in one class of States as in the other—we have the limits fixed of the private right of riparian owners.

Therefore, so far as affecting private riparian rights is concerned, the varying distinctions in the different States as to the extent or nature of the bare title of the bed are merely speculative. As the

Minnesota court said, the question whether the fee is in the State or in the riparian owner,

may be a question of speculative interest, but it is not one of any practical importance. If the fee be in the riparian owner; yet, of course, it must be a qualified fee; that is, subject to the paramount right of public navigation. But, if it be in the State, the riparian owner still has, subject to the same public right, the exclusive right of possession and an entire beneficial interest. Hence, the determination of the question one way or the other would not affect the value of the riparian owner's interest in the property. (*Union Depot Co. v. Brunswick*, 31 Minn., 297.)

Again the same court, after fully defining the property rights belonging to the riparian owner in the bed of the stream, says:

With these rights conceded to the riparian owner, the question whether the fee of the bed of the lake while it remains covered with water is in him or in the State is more speculative than practical. (*Lamprey v. State*, 52 Minn., 181.)

In the *Hanford* case, already quoted from, the Minnesota Supreme Court said:

In view of the character of riparian rights, it is immaterial whether the company (the riparian owner) got the fee or only the exclusive right to use the land. (*Hanford v. Railway Co.*, 43 Minn., 104, 109.)

And, construing the holding of the United States Supreme Court in the case of *Yates v. Milwaukee* (10 Wall., 497), the court, referring to the rights of user belonging to the riparian owner as property rights, said:

The court seems to have regarded it as immaterial whether *Yates's* grantor owned the fee beyond the shore line or not. (*Hanford v. Railway Co.*, 43 Minn., 104, 118.)

So Judge Morris, of the Federal district court, referring to riparian rights upon the Mississippi River, at the city of Minneapolis, and discussing certain early Minnesota decisions rendered before the law as to the extent of riparian ownership in the bed had been fixed in that State, said, as already quoted above:

A careful examination of the cases will show that the same result would have been reached in each one of them, except the one which was subsequently overruled, by applying that rule; and indeed that the conclusion reached would have been obvious from a mere statement of the facts, and that thus the many long and sometimes seemingly inconsistent discussions, and the distinctions which have been attempted to be drawn, would have been avoided. (*Hobart v. Hall and City of Minneapolis*, 174 Fed., 433; *affd.* *Hall and City of Minneapolis v. Hobart* (Apr. 8, 1911), 186 Fed., 426; 108 C. C. A., 348.)

The same rule is manifestly the New York rule, where also the unqualified fee of the riparian owner stops at high-water mark; for, as already shown, it is there held that the rights of the beneficial user of the bed and waters of a navigable stream, indeed of an international boundary stream, are definite property rights belonging to the riparian owner and are only assessable as such and as part of the riparian land. (*People ex rel. Niagara Co. v. Smith*, 111 App. Div., 770; *Cf. State v. Mill Co.*, 26 Minn., 229.)

So, in States where the naked fee in the bed is held to belong to the riparian owner, subject to the sovereign power of control for navigation. It is well settled law in Wisconsin that the riparian owner's fee goes to the center of the stream. (*Chandos v. Mack*, 77 Wis., 573; *Sliter v. Carpenter*, 123 Wis., 578; *Franzini v. Leyland*, 120 Wis., 72.)

In a recent Wisconsin case, the Supreme Court, referring to the fact that in Wisconsin the State law and policy has passed the naked

fee to the riparian owner, and, discussing the extent of riparian rights in such a case as compared with those in a jurisdiction where the riparian fee has been limited to high-water mark, says:

So the State now owns the beds of all navigable rivers between the lines of ordinary high-water mark on either shore, except in so far as the rule of property, established by State policy, has taken it away. If not taken away at all, no question as to the right of public fishing in such rivers would be raised, we may safely assume as before stated. If not taken away, except subject to all the rights, in common, characteristic of public waters, then, as said by Dixon, Ch. J., in *Wisconsin River Improvement Co. v. Lyons* (30 Wis., 61), it is quite immaterial whether the riparian owner's title be considered to extend to the center of the stream or stop at the margin, for his situation, and that of the public, in such circumstances, would be the same as in case of the private ownership of lands in a public highway. While it is said that the title to such lands extends to the center of the highway, that does not in any way interfere with the public use of the way, and so long as such public use is not interfered with it is really immaterial where the legal title rests. It being understood all the time that the legal title is subject to the public use, its location with the adjacent owner, necessarily, is unimportant. So it may be said that the title of a riparian proprietor to lands bordering on a navigable stream extends to the thread of the stream, perfectly consistent with the public character of the stream for navigation and fishing, if the title to the bed of the stream passed to such proprietor subject to such public use. (*Willow River Club v. Wade*, 100 Wis., 86; 42 L. R. A., 305, 329.)

There is, therefore, no further reason for confusion or for any assumption of difference as to the extent and nature of riparian property rights to the beneficial use of the beds and waters of navigable streams for water-power purposes, so far as any such difference is to be based upon the varying holdings of the different States as to the limit of the fee of the riparian owner. The riparian rights are in all cases coextensive. They include all the proprietary rights and private property rights just the same as on small unnavigable streams, with the only exception that upon navigable streams those riparian rights are subject to the sovereign power of control by the State or the Federal Government for the public use of navigation.

CERTAIN EARLY EXCEPTIONAL CASES.

In passing, it is well perhaps to assist in preventing confusion on account of certain early and peculiar cases, which are exceptions to the general rule excluding the State from any proprietary interest; but those exceptions have been by all recent decisions marked as exceptions or overruled. They are, however, often cited, wrongfully, in opposition to the propositions which are here presented.

In Pennsylvania the old rule of "proprietary" interests in the State to the bed and to the water itself in tidal waters, has in effect been applied to navigable fresh waters, and the riparian owner on such waters has never been recognized as having the riparian rights which have always been the rule of property in other States. This is exceptional and arises from the peculiar colonial grants under which the State was settled. (*Randell v. Del. & Raritan Canal Co.*, 14 How., 80; 1 Wall, Jr., 275; *Monongahela Nav. Co. v. Coons*, 6 W. & S., 101; *Shrunk v. Schuylkill Nav. Co.*, 14 S. & R., 71; *Canal Co. v. Wright*, 9 W. & S., 9; *McKeen v. Canal Co.*, 49 Pa. St., 424; *Philadelphia v. Collins*, 68 Pa. St., 106; *Philadelphia v. Gilmartin*, 71 Pa. St., 140; *Fulmer v. Williams*, 122 Pa. St., 191; *Williams v. Fulmer*, 151 Pa. St., 405.)

Again, in New York, in certain cases upon the Mohawk and Hudson Rivers, on account of the early grants by which the State of New York

acquired jurisdiction over those rivers, a certain interest of a proprietary nature has been said to belong to the State in addition to its general rights as sovereign. And on these streams and for these particular reasons many of the early New York cases recognize as remaining in the State a right to divert, and to authorize a diversion of, the waters of these streams without providing for compensation for damages to lower proprietors. If authority at all, these cases must be considered simply as decided under an exceptional state of facts. But they have been repudiated by the highest court of New York, as shown by many recent decisions. In one of these decisions (the Rumsey case) the New York Court of Appeals says, that since the time of these early decisions these questions of riparian rights and of the interest of the State in the control of navigable waters, "have been elaborately examined, discussed, and settled in all the courts," and it is clearly shown that the courts of New York do not recognize these early cases as authority even as to the rights of riparian owners upon the Mohawk and Hudson Rivers, to which streams those cases were confined. The general rule in New York both as to the rights of riparian owners and as to the extent of the control which the State has in navigable waters is now the same as in other States. (*Gould v. R. R. Co.*, 6 N. Y., 522; *People v. Tibbetts*, 19 N. Y., 523; *People v. Canal Appraisers*, 33 N. Y., 461; *Crill v. City of Rome*, 47 How. Rep., 398. But see later decisions: *Smith v. Rochester*, 92 N. Y., 463; *Rumsey v. R. R.*, 133 N. Y., 79; *Brookhaven v. Smith*, 188 N. Y., 80.)

In Massachusetts there is an exceptional line of decisions which are based also upon peculiar grants by which the State acquired jurisdiction over the territory and the waters in question. The right of the State in the "great ponds" of Massachusetts has been a fruitful source of discussion and litigation. By virtue of a colonial ordinance of 1647 and the early grants referred to, in Massachusetts, the State is held to have a proprietary title and interest in the great ponds of the State, which is similar to the interest obtained by an individual grantee, like that, for instance, of the grantees of Humphrey's Pond, situated in Lymfield and Danvers. This leaves in the State a peculiar jurisdiction and power over those great ponds. It is something entirely different and of much broader scope than the sovereign interest or power of control which is reserved to other States in their navigable waters for the purpose of navigation, and has arisen in an entirely different way. Every riparian owner upon a great pond, or upon a stream issuing from a great pond, in the State of Massachusetts, takes and uses the water for power or other purposes, subject to this extraordinary power and title which has been retained in the State. The State then may authorize a diversion of the waters from such a pond for the purpose of public water supply and may use its discretion as to whether or not it will require the payment of compensation for damages to lower proprietors. So, in a decision rendered in 1883, it was held that the act of the State legislature of 1871 authorized the city of Fall River to take water from Watuppa Pond for public supply; but as the act provided that compensation should be made for damages to lower mill owners, it was held that such compensation must be made. Under this act the city of Fall River paid for the right to take one and one-half million gallons a day; but to supply an increased demand the city obtained passage of another act in 1886,

which authorized it to make further abstraction or diversion of the waters of this pond, and in this act it was expressly provided that the city should not be compelled to pay compensation for damages to the lower proprietors. The Supreme Court of Massachusetts held, by majority decision, that on account of this extraordinary proprietary right which had been reserved to the State it has the power through its legislature to authorize a diversion without providing for compensation. This latter decision, in many places, is spoken of as an overruling of decision made five years before; but a careful consideration of it shows that the difference in the result was due solely to the fact that in one act of the legislature the State had made compensation as a condition for the taking, and in the later act it had expressly provided that compensation need not be made. The only reason why the court claimed for the State the power to use its discretion in a matter of requiring compensation was the fact that by virtue of the early colonial grants and the ordinance of 1647 it has a proprietary interest in waters of the great ponds, which other States, except in those instances which we have named, do not have; and this is the only ground on which any such discretion could be based. It can not, as the court holds, be based on any distinction between riparian rights on lakes and ponds and those on running streams. (*Watuppa Reservoir Co. v. Fall River*, 147 Mass., 548; *Watuppa Reservoir Co. v. Fall River*, 134 Mass., 267; 3 *Harvard Law Review*, 1; *Lamprey v. State*, 52 Minn., 181.)

The same exceptions as to certain great ponds applies in Maine. But, with reference to streams, navigable or unnavigable, the riparian rights are the same in both States as those shown to exist in New York and Minnesota. (*Drake v. Hamilton Woolen Co.*, 99 Mass., 574; *Gould v. Boston Duck Co.*, 13 Gray, 450; *Elliott v. Railroad Co.*, 10 Cush., 193; *Davis v. Getchell*, 50 Maine, 602.)

Except as to navigable streams in Pennsylvania, and as to certain great ponds in Massachusetts and Maine, the claim of any proprietary interest in the bed of such streams in the sovereign power, State or Federal, has been repudiated by all States, and the law has been settled that the riparian property rights include all rights to title and beneficial use not inconsistent with the public use of navigation—in other words, the rule is the same as has been shown to exist in Minnesota and New York.

Alabama: *Mobile Transp. Co. v. Mobile* (187 U. S., 479, affirming 129 Fed., 298 (13 L. R. A.), new series, 352) (distinguishing between riparian rights on tidal and nontidal waters).

Connecticut: *Holyoke Water P. Co. v. Connecticut River Co.* (52 Conn., 570).

Delaware: *Delaney v. Boston* (2 Harr., 489).

Florida: *Ferry Pass, etc., Association v. White's River, etc. Association*, 1909 (48 So., 643); *Broward v. Nabry*, 1909 (50 So., 826).

Georgia: *Hendrick v. Cook* (4 Ga., 241); *Jones v. Water Lot Co.*, (18 Ga., 539).

Illinois: *Illinois Central Railroad Co. v. Illinois* (Ill. law) (146 U. S., 387, 435, 452); *Illinois Central Railroad Co. v. Chicago* (Ill. law) (176 U. S., 646); *People v. Economy Light & Power Co.* (241 Ill., 290).

Indiana: *Martin v. City of Evansville* (32 Ind., 85); *Sherlock v. Bainbridge* (41 Ind., 35).
 Kentucky: *Ky. Lumber Co. v. Green* (87 Ky., 257); *Wilson v. Watson*, June, 1911 (138 S. W., 283).
 Louisiana: *Board of Commissioners v. Glassel* (45 So., 370).
 Maine: *Pearson v. Rolfe* (76 Me., 385); *Wilson v. Harrisberg*, Me., 1910 (77 Atlantic, 787).
 Maryland: *United States v. Great Falls Mfg. Co.* (112 U. S., 645); *Great Falls Mfg. Co. v. Atty. General* (124 U. S., 581); *Mayor v. Appold* (42 Md., 442).
 Michigan: *Ryan v. Brown* (18 Mich., 196); *Bay City Gas Light Co. v. Industrial Works* (28 Mich., 182); *Dumont v. Kellogg* (29 Mich., 420); *Hoxsie v. Hoxsie* (38 Mich., 77).
 Mississippi: *Steamboat Magnolia v. Marshall* (39 Miss., 109); *New Orleans, etc., R. Co. v. Frederic* (46 Miss., 1).
 Missouri: *Meyers v. St. Louis* (8 Mo., App., 266); *State ex rel. v. Longfellow* (169 Mo., 109, 129).
 New Hampshire: *Hayes v. Waldron* (44 N. H., 580); *Norway Plains Co. v. Bradley* (52 N. H., 86).
 New Jersey: *Atty. Gen. v. R. Co.* (12 C. E. Green, 1 and 631).
 North Carolina: *Roanoke Rapids P. Co. v. Roanoke N. & W. P. Co.* (68 S. E., 190).
 Ohio: *Walker v. Board of Public Works* (16 Ohio, 540).
 Rhode Island: *Rhode Island Motor Co. v. City of Providence* (55 Atl., 696).
 South Carolina: *Heyward v. Farmers Co.* (42 S. C., 138).
 Tennessee: *Goodwin v. Thompson* (15 Lea, 209); *State v. Pulp Co* (119 Tenn., 47).
 Vermont: *Miller v. Mann* (55 Vt., 475).
 Virginia: *Richardson v. U. S.* (100 Fed., 714); *Taylor v. Commonwealth* (102 Va., 759).
 Wisconsin: *Kaukauna W. P. Co. v. Green Bay Co.* (Wis. law) (142 U. S., 254); *Village of Packwaukee v. Savoy* (103 Wis., 271); *Franzini v. Layland* (120 Wis., 72); *State, ex rel Wausau St. Ry. Co. v. Bancroft, Atty. Gen., et al.* (decided Jan. 30, 1912), declaring invalid the Wisconsin statute of 1911 attempting to confiscate private riparian rights (134 N. W. Rep., 330).

IV.—THE LEGAL AND PROPER SCOPE OF FEDERAL LEGISLATION.

In the foregoing the following propositions have been established as the law in all the States recognizing the law of riparian rights (which, as we have shown, include all States except certain far Western States, where the common law of riparian rights does not prevail), and also with the peculiar exceptions noted as to certain streams in Pennsylvania and the big ponds of Massachusetts and Maine:

1. The only power of control belonging to the Federal Government is under the commerce clause of the Constitution, to regulate navigable streams as highways—that is, for the purpose of navigation—and this power excludes every proprietary element, and is purely a limited sovereign power of control for a specific purpose.
2. All other rights, sovereign or proprietary, have passed to the States or to individual owners. But the State has no proprietary

interest in the bed or the waters. Its interest is a holding as a sovereign, in trust, for a specified public purpose, primarily for navigation.

3. All proprietary elements of title or of rights of user of the bed and waters belong to the riparian owner as a part of the riparian estate; they are vested property rights, and subject only to the exercise of the limited power of sovereign control, reserved to the State and the Federal Government for a specific purpose—that is, to use and regulate the use of the river for navigation. These private rights of the riparian owner include the right to all the beneficial use of the natural water powers in the stream opposite his riparian land, including the right to develop and operate and to enjoy the revenues from such power.

4. It matters not that by one State law the riparian fee has been limited to high-water mark, or has been by another State law extended to the center of the stream. The paramount right of the sovereign being limited to a specific use and purpose, and all of the rights and beneficial use belonging to the riparian, the vested property rights of the riparian are the same in all cases.

5. Nor are the riparian rights any different in the case of a stream which happens to be a boundary stream, whether such boundary is international or State.

Such being the reserved character and extent of the rights of the sovereign upon the one side, and the riparian owner upon the other, the question now before your honorable commission is as to what may be legally the scope of Federal legislation, in so far as it shall affect the rights or interests of riparian owners upon highway streams. What limitations or restrictions may and shall be imposed by statute?

This question has been much discussed, and with great difference of opinion, as shown by the various river and harbor statutes and by the records in the Congress, a review of which will throw light upon the present situation.

1. THE PRESENT STATUS OF THE QUESTION—THE PROHIBITION AGAINST DAMS AND BRIDGES, AND THE NECESSITY AND TERMS OF FEDERAL CONSENT.

Prior to 1899 the Federal Government had apparently always recognized the law of riparian rights, extending those rights to the full extent, as stated in the foregoing cases, "which is not inconsistent with public right," meaning by the public right the right of the Federal Government to protect and improve streams for commerce, and the right of the State to protect them for navigation and allied public uses. The law then was, and still is, that, in exercising his rights of beneficial use in the water powers of a navigable stream, a riparian owner held and exercised such rights, including the right of operation, always subject to his obligation to yield or to give way at any time to the full extent that any diminution of his advantages might be reasonably necessary for the actual exercise by the sovereign of that power which is always reserved to it—to regulate for navigation.

If the riparian built a dam in a navigable stream which actually interfered with the navigation of the river for commercial purposes, it was an illegal structure. If he built his dam in a navigable stream

in such a way as not to interfere with the actual navigation of the river for commercial purposes, he was within his right and was protected by every law of property, and could not be disturbed until, and then only to the extent, that the actual improvement of the river for navigation should require his giving way, in part or in whole, to that paramount purpose. His right and title to the beneficial use of the water powers gave him a right to develop and obtain the advantages of such use, to the full extent, not "inconsistent" with the public right. Every advantage which could be saved to him, consistently with the exercise of that public right, belonged to him. Not only to the extent that improvements made in navigation should be made by the Government for the purpose of rendering artificially navigable that part of the river where his dams were situated, and which naturally at that point are not navigable, did he have the right to the full beneficial use of the water powers, but he also had the same property right to the full beneficial use up to the time and until the improvement in navigation should necessarily interfere with that right or diminish his beneficial use. No statute was deemed necessary, and none was made, which would at any time, or in any degree, deprive him of such beneficial use, except to the extent and not until the time that the Government should, by navigation improvements, necessarily diminish such beneficial use. These property rights were recognized, not only by the law, but by Federal statutes. It was not necessary, nor is it reasonably consistent with his property rights, that the Government should step in, and, in advance of any improvement actually intended, assert by statute the superiority of the Government's rights and the inferiority of the rights of the riparian. These respective rights were established by law, for the rule had been and is settled that, so far as the rights of user of the bed of a stream are concerned, those rights are all subject to the exercise at any time of Government control for navigation. If a subsequent improvement by the Government for navigation shall be made, then, so far as such improvement shall necessarily interfere with his right of user, whether already exercised or not, such rights could be diminished, impaired, or taken, without compensation; although compensation must be made if there is injury to his absolute property—for instance, to his riparian tract itself which he never held except by an unqualified fee.

These principles were deduced by the United States Supreme Court from a long review of the cases, and summarizing, the court said:

Do the principles announced in the above case require us to hold, in the present case, that the making of the alterations of its bridge specified in the order of the Secretary of War will be a taking of the property of the bridge company for public use? We think not. Unless there be a taking, within the meaning of the Constitution, no obligation arises upon the United States to make compensation for the cost to be incurred in making such alterations. The damage that will accrue to the bridge company, as the result of compliance with the Secretary's order, must, in such case, be deemed incidental to the exercise by the Government of its power to regulate commerce among the States, which includes, as we have seen, the power to secure free navigation upon the waterways of the United States against unreasonable obstructions. There are no circumstances connected with the original construction of the bridge, or with its maintenance since, which so tie the hands of the Government that it can not exert its full power to protect the freedom of navigation against obstructions. Although the bridge, when erected under the authority of a Pennsylvania charter, may have been a lawful structure, and although it may not have been an unreasonable obstruction to commerce and navigation as then carried on, it must be taken, under the cases cited, and upon principle, not only that the company

when exerting the power conferred upon it by the State, did so with knowledge of the paramount authority of Congress to regulate commerce among the States, but that it erected the bridge subject to the possibility that Congress might, at some future time, when the public interest demanded, exert its power by appropriate legislation to protect navigation against unreasonable obstructions. Even if the bridge, in its original form, was an unreasonable obstruction to navigation, the mere failure of the United States, at the time, to intervene by its officers or by legislation and prevent its erection, could not create an obligation on the part of the Government to make compensation to the company if, at a subsequent time, and for public reasons, Congress should forbid the maintenance of bridges that had become unreasonable obstructions to navigation. It is for Congress to determine when it will exert its power to regulate interstate commerce. Its mere silence or inaction when individuals or corporations, under the authority of a State, place unreasonable obstructions in the waterways of the United States, can not have the effect to cast upon the Government an obligation not to exert its constitutional power to regulate interstate commerce except subject to the condition that compensation be made or secured to the individuals or corporation who may be incidentally affected by the exercise of such power. The principle for which the bridge company contends would seriously impair the exercise of the beneficent power of the Government to secure the free and unobstructed navigation of the waterways of the United States. We can not give our assent to that principle. In conformity with the adjudged cases, and in order that the constitutional power of Congress may have full operation, we must adjudge that Congress has power to protect navigation on all waterways of the United States against unreasonable obstructions, even those created under the sanction of a State, and that an order to so alter a bridge over a waterway of the United States that it will cease to be an unreasonable obstruction to navigation will not amount to a taking of private property for public use for which compensation need be made. (*Union Bridge Co. v. United States*, 204 U. S., 399-401).

Here let me again call attention to the fact of the limited nature of the power of Congress over navigable streams, even for navigation. The power of Congress over highway streams is not plenary or unlimited. It is limited to the purpose of the necessary or reasonable protection of commerce, which in this case means the necessary or reasonable protection of navigation. It does not extend to the power to make any arbitrary restrictions, but only those which are reasonably necessary. More than that, the exercises of that power must be consistent with the reasonable exercise of other rights, whether public or private, to the use of the stream. Its power, then, is limited to the prevention of unreasonable interference with navigation. Any slight or reasonable interference, not necessarily or presently obstructive to navigation, caused by the exercise of other conflicting rights or interests, is not necessarily within the authority of Congress to prevent. The fact that the uses of the river for navigation and for other purposes to which it is naturally adapted are to some degree conflicting, and that it is impossible to have exercised each and all of these rights to their fullest extent, does not give the right to Congress to exercise its power of regulation for navigation disregard of these other and conflicting rights. On the contrary, the power of Congress must be exercised with due regard—that is, with reasonable regard—to such conflicting rights. It can not prevent each and every interference with navigation, independent of the question of the extent or reasonableness, under all the circumstances, of such interference. As defined in the *Union Bridge* case above cited, the power of Congress is limited to the “power to protect navigation on all waterways of the United States against unreasonable obstructions.” As in all cases of conflicting, or possibly conflicting, rights of user of the same stream, the principles of the rule of “reasonable use” must be observed. While “paramount” in the proper sense of the word, the power of control by Congress is

far from being unlimited. It must be so exercised, if reasonably possible, that other rights of user shall not be destroyed or impaired; and if such impairment is reasonably necessary in order to protect against unreasonable interference with navigation, then such impairment must be made only to the extent that it is reasonably necessary, and so as to leave feasible, so far as reasonably possible, the exercise also of other rights ordinarily in conflict with an unlimited exercise of the right of navigation.

Not only is this the doctrine of the Federal Supreme Court, but of the State courts. Speaking of the relation between the riparian private right of power development and the public right of navigation, the Wisconsin Supreme Court quotes with approval the words of the Michigan Supreme Court as follows:

As has been said by Judge Cooley, in *Middleton v. Flat River B. Co.* (27 Mich., 533), "Each right should be enjoyed with due regard to the existence and protection of the other." Or, as he says in *Buchanan v. Grand River Co.* (48 Mich., 364, 367): "Each right modifies the other, and may, perhaps, render it less valuable; but this fact, if the enjoyment of the right is in itself reasonable and considerate, can furnish no ground for complaint." (*State, ex rel. Wausau St. Ry. Co., v. Bancroft, Atty. Gen.* (Jan. 30, 1912), 134 N. W. Rep., 330, 340; so also *Crookston W. W. P. & L. Co. v. Sprague*, 91 Minn., 461.)

It was evidently with due regard to the property law thus long established, that, prior to 1899, there was no Federal prohibition against the building of dams which did not actually interfere with navigation. The prohibition was against the construction and maintenance of dams in navigable rivers "in such manner as shall obstruct or hinder navigation, commerce, or anchorage of said waters," and the construction of dams in places where they might interfere with actual navigation were prohibited "until the location and plan of such bridge or other works had been submitted to and approved by the Secretary of War." (Sec. 7, act of Sept. 19, 1890; 20 St. L., 426; 1 Suppl. Rev. L. U. S., 80; act of July 13, 1892; 27 St. L., 88.)

In 1899 the terms of this prohibition were enlarged, and every dam on or across a navigable stream, whether actually navigable at the point in question or not, and independently of the fact whether such structure interfered with actual navigation, was prohibited "until the consent of Congress to the building of such structure shall have been obtained, and until" the plans for the same are approved by the Chief of Engineers and the Secretary of War. (Sec. 9, act of Mar. 3, 1899, 30 St. L., 1121.)

In 1906 further restrictions were added, and in addition to the provisions of the 1899 statute it was provided that plans for the proposed structure should be submitted to and approved by the Chief of Engineers and the Secretary of War, and "in approving said plans and location, such conditions and stipulations may be imposed as the Chief of Engineers and the Secretary of War may deem necessary to protect the present and future interests of the United States, which may include conditions that such persons shall" construct in such dam locks and gates in the interest of navigation, and furnish power to the United States to operate such locks, etc. (Act of June 21, 1906, 34 St. L., 386.)

In view of the decision of the United States Supreme Court last above cited, in the *Union Bridge* case, there could have been no necessity for the change in the terms of the statutes as made in 1899 and in 1906, so far as protecting the interests of the United States

was concerned, for under the law of property, as announced in that case, it was open to the United States at any time, when and so far as reasonably necessary for navigation improvement, to abate, diminish, or in any way injure the beneficial use which any riparian owner was making of the bed and waters of a river. It was absurd that locks or gates for navigation purposes should be maintained in a dam at a point in the river where, if improved for navigation at all, it would not be for a long time to come. The legal effect and object of these statutes was by statutory enactment, in advance, to bring to and impress upon the mind of the riparian owner the rule that his exercise of his riparian rights in such streams was at all times subject to be diminished or destroyed whenever the stream should be actually improved for navigation. For the same purpose were the provisions for the consent of the Congress, where such consent was required after 1899, as to dams which did not actually interfere with navigation. In such acts expressing consent the Congress could, and actually did, include in terms the obligations which the law of property already imposed upon the riparian owner, by which his structures were expressly made subject to the improvement of the river for navigation. They also gave the opportunity, in providing for the submission of plans for the approval of the Secretary of War, to obviate, in advance, unnecessary damage to the riparian owner, by reason of prospective or possible improvements for navigation, by allowing the Government, through that official, to cooperate with the riparian owner in his plan of construction, so that, as nearly as possible, they might conform to the future navigation improvements, and thus minimize the possible changes or damage to him which might be necessary in case of such improvement. It could never be held, as a matter of law, that onerous restrictions or regulations for the financial benefit of the Government or of the public could be imposed upon the riparian owner as a condition, in the nature of a tribute, without the fulfillment of which the consent, either of the Congress or of the Secretary of War, would be withheld.

This leads us to a consideration of the legal and proper restrictions which may be imposed by the Federal Government upon riparian owners, in connection with their use of the beds and water of the navigable streams, for water-power purposes.

2. THE GOVERNMENT RIGHT IS ONE OF LIMITED CONTROL FOR NAVIGATION PURPOSES, AND DOES NOT INCLUDE ANY RIGHT TO IMPOSE A TOLL OR TRIBUTE, OR ANY RESTRICTION NOT REASONABLY NECESSARY TO THE IMPROVEMENT, BY THE GOVERNMENT, OF THE RIVER FOR NAVIGATION.

This question is, perhaps, one of the concrete questions now before your honorable commission. In the light of what has been shown above, it is manifest that the property right to the beneficial use of the water powers is a private property right belonging to the riparian owner. It is also manifest that in such water powers, whether developed or undeveloped, the Government has no interest, nor can it claim any interest, in the beneficial use, which is proprietary in its nature. It can not take such interest, nor the proceeds of such interest, from the riparian owner, either for its own benefit or for the

benefit of the State. It has the paramount right to improve the river for navigation purposes. To this paramount right the right of the riparian must "yield," but it can not be made to "contribute" toward it.

It is because of the failure to recognize the relative legal rights of the Government upon the one side and of the riparian upon the other that this distinction between yielding to a paramount right and contributing to it has not been sufficiently observed. It goes without saying that neither the Government nor an individual can legally accomplish that indirectly which would be illegal by direct action.

It is no answer to this proposition, then, to say, "Well, what are you going to do, you, the riparian owner? You have no practicable remedy." This has been too much the attitude of some of the officials of the United States Government, as well as of those who are urging upon the Congress confiscatory measures against the riparian owner, under the plea of conserving to the Nation its natural resources.

The rule is established, however, that requirements and restrictions exercised under the power of Federal control for navigation must be confined to those which are necessary and consistent with the powers of the Government and consistent with the rights of individuals, and that any arbitrary regulation or restriction which overreaches these limits is illegal; that, as the Federal Supreme Court said in the Illinois drainage case:

If the means employed have no substantial relation to public objects which the Government may legally accomplish; if they are arbitrary and unreasonable beyond the necessities of the case, the judiciary will disregard mere form and interfere for the protection of rights injuriously affected by such illegal action. (C., B. & Q. R. R. Co. v. Drainage Commissioners, 200 U. S., 561.)

This question was fully discussed in connection with the congressional permits for water-power dams across the Rainy River in Minnesota and across the James River in Missouri.

In 1908 President Roosevelt vetoed the Rainy River Dam bill, on the ground that there was no limit of time made to the consent of the Congress and no charge imposed upon the riparian owner as a tribute for the consent given; and he declared himself unwilling, in the future, to approve any bill granting consent to develop water powers in a navigable stream which did not contain a definite limitation as to time and a provision for charges "for the benefits" obtained by the riparian owner. (Report of Subcommittee on Dams and Water Power, H. Rep. Feb. 25, 1909, pp. 5-7.)

These views of the President were repeated in vetoing the James River Dam bill. (Special message of Jan. 15, 1909, Report of Subcommittee on Dams and Water Powers, Feb. 25, 1909, p. 10.)

Upon the same question, Senator Knute Nelson, as chairman of the Senate Committee on Commerce, submitted a report on April 30, 1908, in which he discussed the proposed amendment to the James River (Missouri) bill and the attitude of President Roosevelt insisting that time limitations and substantial charges be made upon the riparian owner. In that report Senator Nelson said:

This is a new departure from the policy heretofore pursued in respect to legislation authorizing the construction of such dams, and in view of this fact it becomes important to inquire whether the Government of the United States has the right to require compensation for the use of water in such streams for purposes other than navigation.

Then, after examining the authorities and coming to the same conclusions, as stated above, he said:

From the foregoing it will appear that there are three different parties who are interested in the waters of a navigable stream:

1. The United States.
2. The State in which the stream is located.
3. The riparian owner.

The interest of the United States is derived from and rests upon that paragraph of the Constitution which gives Congress the power to regulate interstate commerce, and this power only extends to the extent of conserving the navigability of the stream. Beyond that the Federal Government has no interest or property in the stream.

The interest of the State in the stream is derived from its sovereignty and it holds its property in the stream in trust for all public uses but in subrogation to the rights of the Federal Government as to navigation and of the riparian owner. The right to the use of the waters of a stream for any lawful purpose outside of the right of navigation belongs wholly to the State and the riparian owner.

And in conclusion Senator Nelson said:

From the foregoing statement and citation of authorities it is evident that the only use of the waters of a stream in which the United States has any property is its use for purposes of navigation. In the use of the stream for any other purpose the Federal Government has no property, and hence has nothing to sell or to exact compensation for.

The plan proposed by the President would deprive the States and the riparian owners of their rights in the use of the water of a navigable stream now vested in them by law, and would concentrate the entire disposal and control in the Federal Government, a power which neither the States nor the riparian owners can, with justice or safety, for a moment concede. But assuming for the sake of the argument that the Federal Government can lay a tribute in such cases as is proposed by the President, it can not be under the interstate-commerce clause of the Constitution, but must be under section 8 of Article I, which reads as follows:

"Sec. 8. The Congress shall have power to lay and collect taxes, duties, imposts, and excises, to pay the debts and provide for the common defense and general welfare of the United States; but all duties, imposts, and excises shall be uniform throughout the United States."

Such a tribute must be either a direct tax or in the nature of an impost or excise tax. If a direct tax, it can not be levied directly by the Federal Government, but must be apportioned among the States, leaving each State to make the collection; and if an impost or excise tax, then it must be levied by the rule of uniformity upon every dam and water power in the United States not constructed directly or indirectly by the Federal Government. In other words, there must be a general excise law on the subject. The power of the Federal Government over the navigable streams of the country is no greater in the so-called Western or public-land States than in the New England States. If a tribute can be levied on a dam and water power in Minnesota or Colorado, it can be levied on a dam and water power in Maine or Massachusetts, for the power of the Federal Government over navigable streams is the same in the one case as in the other. In the case of *Pollock v. Farmers Loan & Trust Co.* (157 U. S., 557) the court states:

"Thus in the matter of taxation the Constitution recognizes the two great classes of direct and indirect taxes, and lays down two rules by which their imposition must be governed, namely, the rule of apportionment as to direct taxes and the rule of uniformity as to duties, imposts, and excises."

In the case of *Thomas v. United States* (192 U. S., 363) Chief Justice Fuller says:

"And these two classes, taxes so called, and 'duties, imposts, and excises,' apparently embrace all forms of taxation contemplated by the Constitution. As was observed in *Pollock v. Farmers Loan & Trust Co.* (157 U. S., 429, 557), 'Although there have been from time to time intimations that there might be some tax which was not a direct tax nor included under the words 'duties, imposts, and excises,' such a tax for more than 100 years of national existence has as yet remained undiscovered, notwithstanding the stress of particular circumstances has invited through investigation into sources of revenue * * *'"

"There is no occasion to attempt to confine the words duties, imposts, and excises to the limits of precise definition. We think that they were used comprehensively to cover customs and excise duties imposed on importation, consumption, manufacture, and sale of certain commodities, privileges, particular business transactions, vocations, occupations, and the like."

An act authorizing the construction of a dam is, so far as the United States is concerned, a mere revocable license or privilege, and if a tax can be imposed on such a privilege it must be general and uniform throughout the United States. It must apply to all dams and water powers on navigable streams throughout the entire country.

Nearly all navigable streams in their upper and more remote courses are not, as a matter of fact, navigable, and in such reaches of the river dams can be erected and water powers created under State authority and State license, and so long as such dams and water powers do not materially injure or diminish the navigability of the stream in its navigable portions the Federal Government has no ground for interference. It has been customary, however, in many of such cases to apply to Congress for a Federal license, and the granting of it, while not necessary, serves a twofold purpose: First, that it authorizes the Federal Government, through the War Department, to control and direct the construction of the dam, and, second, that it recognizes the fact, which might otherwise require proof, that the dam will not affect the navigability of the stream in its navigable portions. (*Kansas v. Colorado*, 206 U. S., 46; *United States v. Rio Grande Co.*, 174 U. S., 690.)

And in such cases it is of as much advantage to the United States as to the grantee of the license to have congressional action and recognition, but in such cases the Federal Government has nothing to sell and therefore has no moral or legal ground to demand compensation in any form.

For reasons above given the committee report the bill without the amendment recommended by the War Department. (See S. Rept. No. 585, 60th Cong., 1st sess.)

Gen. Mackenzie, Chief of Engineers, referring to the propositions that the Congress should not only authorize the Secretary of War to grant leases of water powers incidentally created by dams built by the Government for the benefit of navigation, but that it should also empower the Secretary of War to authorize others (than the riparian owners in connection with their riparian rights), to construct and operate dams for water powers, in an opinion to the Secretary of War, on January 16, 1905, said:

3. In connection with legislation of this kind careful consideration should be given to the question of the limitations of the power of the Federal Government over navigable waters. By virtue of its power to regulate commerce Congress may exercise control over the navigable waters of the United States, but only to the extent necessary to protect, preserve, and improve free navigation. The Federal Government has no possessory title to the water flowing in navigable streams, nor to the land comprising their beds and shores, and hence Congress can grant no absolute authority to anyone to use and occupy such water and land for manufacturing and industrial purposes. The establishment, regulation, and control of manufacturing and industrial enterprises, as well as other matters pertaining to the comfort, convenience, and prosperity of the people, come within the powers of the States, and the Supreme Court of the United States holds that the authority of a State over navigable waters within its borders, and the beds and shores thereof, is plenary, subject only to such action as Congress may take in the execution of its powers under the Constitution to regulate commerce among the several States.

4. Many of the provisions of the bill under consideration appear to conflict with these principles of law, and particularly sections 3 and 6, which propose to confer upon the United States and upon any lessee or grantee under the provisions of the bill the power to condemn any land or other property bordering upon or adjacent to the river or stream to be used. Eminent domain is the right to take property for public uses and is inherent in the United States by virtue of its sovereignty. Private property can be expropriated by the Federal Government, however, for public purposes only; that is, when it is necessary for the use of the Government in the exercise of any of its legitimate powers. To take or to authorize the taking of the property of one individual for the use and benefit of another in carrying on a private business or industry, as proposed by the bill, is not a proper exercise of the right of eminent domain. There may be certain enterprises of a quasi public character, such as electric-light and railway companies, that would desire to avail themselves of the uses of water power, and to which the right to condemn private property could properly be granted; but the granting of such right is believed to be the function of the States, inasmuch as the organization and incorporation of these enterprises, as well as the title and ownership of the property affected, are matters for State control and regulation. In view of the foregoing, I am unable to recommend favorable consideration of the bill in its present form.

5. To legislation authorizing the Secretary of War to lease water power created by works constructed by the Government I see no special objection, but I know of no demand for it in the public interest.

The right of Congress to regulate, control, and dispose of such water power is believed to be unquestionable, inasmuch as the power constitutes a valuable property created at the public expense, and when utilized by private persons or corporations should be paid for. Whether a general policy of this kind should be adopted, however, is a question that should be very carefully considered. Locks and dams are built and operated for the purpose of facilitating navigation and commerce, and nothing should be permitted that would tend to impair their usefulness or interfere with their operation for this purpose. Partnerships or quasi partnerships between the Government and private persons or corporations have not been generally favored in the past, as experience has shown that they are apt to be attended by many annoying complications. I do not believe that sufficient revenue would be derived from renting water power to compensate for the trouble and inconvenience that might ensue from the adoption of such a policy. Congress has heretofore authorized the renting of land and water power at the locks and dams on the Muskingum River and Green and Barren Rivers; but it is understood that this was done for the reason that at the time these works came into the possession of the United States there was in existence a number of leases granted by the former owners which constituted an easement on the property, some of which leases had many years to run. In cases where a new privilege is asked it has been customary to invite public competition, setting a minimum price; but no active competition has been developed. There is also one company which used land and water power at Lock No. 4 on the Kentucky River, under a lease granted by the State of Kentucky, which expires in 1977. During the past fiscal year there were in existence 27 different leases and the total gross revenue received by the Government was only \$4,500, and in a number of instances in the past the Government has been compelled to resort to suits against lessees to collect the rental. While many applications would be made for permission to use Government water power if no charge was made therefor it is believed that few leases would be made, and then only at favored localities, if adequate compensation were exacted. In the river and harbor act of June 13, 1902, Congress authorized the leasing of water power at the locks and dams on the Cumberland River. Before the enactment of this law a number of persons appeared to be desirous of using water power in this river, but although the law has been in existence more than two years not a single lease has been applied for or granted. If, however, Congress should decide to adopt this policy, I beg to recommend that the legislation take the form of the accompanying draft of a bill which, in my opinion, is so drawn as amply to protect the interests of the Government.

6. Regarding the proposition to empower the Secretary of War to authorize the use and development of water power at localities not improved by the United States, it should be borne in mind that natural water power—that is, power made available by the existence of natural falls and rapids in a river—is appurtenant to riparian ownership, and the right to use it is governed by State laws on the subject of private property. As above set forth, the Federal Government can regulate and control it only to such extent as may be necessary in the interests of navigation. Sections 9 and 10 of the river and harbor act of March 3, 1899, cover cases of this kind, and under this law the interests of the Government can, in my opinion, be better protected than by a law general in its scope, as contemplated by the bill. I do not favor the proposed legislation, but if any is enacted it should be permissive in its character, simply giving the consent of Congress, with suitable limitations, to the erection of the necessary structures in navigable streams for the development of water power, this consent to be executed through the Chief of Engineers and the Secretary of War, to whom should be left entire control in the matter of plans and details. (Report of Subcommittee on Dams and Water Power, House of Representatives, Feb. 25, 1909.)

The House subcommittee, Hon. F. C. Stevens, of Minnesota, chairman, after a careful consideration of the legal questions, refused to recommend the further proposed restrictions upon private water powers.

The conclusion which is inevitable from the foregoing consideration of the relative rights of the Federal Government, of the State, and of the riparian owner, was pointed out by President Taft, when, as Secretary of War, he gave an opinion, on the occasion of the application of a riparian owner on the Des Plaines River for the approval of plans, to construct a dam for water power; and he refused the applica-

tion as being unnecessary for the reason that the Des Plaines River was not a navigable stream, and therefore did not come within the Federal statutes requiring such consent or approval. He said:

The truth is that the Des Plaines River, not being a navigable stream, no permit was necessary to put any obstruction into it which the War Department could prevent. But even if it had been a navigable stream, and even if the application had been made, and properly made to this department, to say whether this would interfere with navigation if the department concluded it would not interfere with the navigation, then it is not within the power of the department to withhold its expressing such an opinion and granting such a permit, so far as the United States is concerned, for the purpose of aiding the State in controlling the water power. If the State has any control over the water power, which it may exercise in conflict with the claimed rights of the riparian owner, then it must exercise it itself, through its own legislation and through its own executive officers. All the United States does, assuming it to be a navigable stream, is merely to protect the navigation of the stream. With reference to the water power, it has no function except in respect to water power which it itself creates by its own investment in property that it itself owns, and then, of course, it may say how that water power shall be used.

But with respect to the water power on a navigable stream, which may be exercised without interference with the use of the river for navigation purposes, that is controlled by the laws of the State. It is controlled by the riparian ownership and by the common law as it governs those rights; therefore I do not see, with reference to this matter, that this department has any function to perform or which it can perform. (Report of Subcommittee on Dams and Water Power, Feb. 25, 1903. See also *People v. Economy Light & Power Co.*, 241 Ill., 290.)

On January 27, 1906, in a letter to the president of the Merchants' Association of New York, President Taft, then Secretary of War, wrote as follows:

Certain powers in respect to the navigable waters of the United States are vested in Congress by the commerce clauses of the Constitution; and a very limited delegation of the powers so conferred has been vested by Congress in the Secretary of War, extending to the establishment of wharves, dams, bridges, and the like, in such waters, and to the removal of certain obstructions therefrom, together with the power to prevent such a diminution in the volume or flow of particular bodies of water as will impair their usefulness for purposes of navigation.

Although the power to determine whether certain waters are or are not navigable is vested in the courts and in Congress and is not ordinarily a matter for executive determination, it may, I think, be safely assumed that the Niagara River in the immediate vicinity of the Falls is not navigable, certainly not between Echota and Lewiston, a distance of about 7 miles, so that for that distance the river may be regarded as withdrawn from executive jurisdiction, unless it be shown that the water taken from the stream above the Falls for power purposes diminishes the flow below the rapids, where the river is again used for purposes of navigation. It is assumed that the water which flows through the generators of electric power is returned to the stream in the immediate vicinity of the Falls.

If this be the case (and the question is one of fact which is susceptible of easy determination), I know of no authority of law by which the department can effectively interpose to prevent the diversion of the water from the purposes to which it is now being applied. (P. 258, Hearings before House Committee on Rivers and Harbors, 59 Cong., 1st sess.)

Here speaks an executive who never clamors, nor yields to clamors, for legislation repugnant to law. These are the words of the judge, who, understanding the established law of property rights, refuses to encourage legislation or enforce the provisions of statutes already passed beyond constitutional limits.

Of course, there should be borne in mind the distinction between proprietary control of water powers exercised by the Government, where such water powers are necessarily incidental to the dams and structures which are built and operated by the Government itself for the improvement of navigation. In such cases leases, limitations of time for leases, and charges for water power are properly made.

Such, for instance, was the case upon the St. Mary's River, where the Federal statute, consistently with a proper policy of conservation, saved to itself the benefit of the water powers incidentally created by navigation improvement, but confined these regulations and restrictions to "rights owned by the United States." (Sec. 12, act of Mar. 30, 1909, 35 St. L., 821.)

Upon principles of law thus manifestly established, defining the legal limitation between the rights of the Federal Government, the State government, and the riparian owner, there can be no justification and no necessity for the protection of any Federal interest or public interest by placing a time limit or a money charge on Federal consent to riparian owners to maintain and operate dams for water power.

As pointed out in the Union Bridge case, the Government always retains, as against the riparian owner, its right to improve for navigation purposes. Under the law all other rights belong either to the State or to the riparian owner; and where the State has given the riparian owner all property rights in the beneficial use of the water power, as all the States have done, such riparian owner has the proprietary right to the beneficial use of the water, which is limited only by the actual necessities of the Government for the purposes of navigation. This established legal right of the riparian owner should be fully recognized and should not be encroached upon even by the terms of legislation.

For the same reasons, except as limited by the actual necessities of the Federal Government, exercised not arbitrarily or indirectly but reasonably and directly for navigation purposes, the riparian owner has a property right to all the beneficial use of the water powers. This includes every cent of revenue which he can make such water powers produce. His rights are inferior to the superior rights of the Federal Government only to the extent that they must yield to the necessities of navigation. This means that the exercise of his rights, physically speaking, must be made to conform, or if the structures have already been built, must be subject to change, so far as necessary to the exercise of the superior right of navigation. It is for the riparian owner to submit to the burden of such changes, because the right to maintain and operate his structures is subject to the right of the Government to make changes when required for navigation. However, subject to such obligations, the riparian owner still retains, as part of his beneficial use, the right to all revenues and proceeds from his water-power plant as it may be operated, whether under its original construction or under a remodeled construction to conform to navigation improvements. To levy a toll, either in advance of the navigation improvement or afterwards, to be paid out of the revenues of the water power, is to appropriate, without compensation and without consideration, to the benefit of the Government that which belongs to the riparian owner. It is a confiscation, to the extent that such tribute is demanded and enforced. The riparian owner is not benefited by the improvement of navigation any more than any other individual of the general public. On the contrary, he is the one especially damaged, to the extent that he has to yield the maintenance of his water-power plant and dams to the necessities of navigation improvements. He is always subject to such damage.

It has always been the policy of the Federal Government, at its own expense, to improve the facilities for navigation for the general benefit of the public. Its power to improve navigation is given in terms as a "power to regulate commerce." There is no justification in law, in principle, or in reason for the levy of a toll or tribute upon the riparian owner to reimburse the Government for the expense of improvement of the river at a point where water-power plants are located. There is much less justification for the accumulation of a fund by such means for the purpose of improvement of such navigation at other points of the same stream or of other streams. If the Government should change its policy of bearing the expense, the toll or charge should be paid by those who are benefited by the improvement, and to whom valuable facilities are thereby given for private remunerative enterprises connected with navigation. As to such beneficiaries the present Federal policy is stated as follows:

No tolls or operating charges whatever shall be levied upon or collected from any vessel, dredge, or other water craft for passing through any lock, canal, canalized river, or other work for the use or benefit of navigation now belonging to the United States or that may be hereafter acquired or constructed.

and such cost of operating, preserving or continuing the use of such work shall be paid out of the Treasury of the United States. (Sec. 6, act Feb. 27, 1911, 36 St. L., 956.)

3. THE PROPERTY RIGHTS OF THE RIPARIAN OWNER CAN NOT BE DIMINISHED BY LEGISLATION, STATE OR NATIONAL, NOR BY TREATY.

It has been already demonstrated that the rights of the riparian owner are property rights and that they include the exclusive right to the entire beneficial use of the bed and waters of the stream, subject only to the paramount public right; and that this paramount public right, whether Federal or State, is limited to a specific purpose—navigation—and that the riparian rights are the same, whether the title of the bed is held by the State or by the riparian owner. This rule of property rights is stated by the Minnesota court as follows:

Whether the fee to the bed or only an easement therein are in the riparian owner "may be a question of speculative interest, but it is not one of any practical importance. If the fee be in the riparian owner, yet, of course, it must be a qualified fee; that is, subject to the paramount right of public navigation. But, if it be in the State, the riparian owner still has, subject to the same public right, the exclusive right of possession and the entire beneficial interest." (*Union Depot Co. v. Brunswick*, 31 Minn., 297.)

This definition of the riparian property right is further enforced by the rule, already shown, that—

the limit to the private right is imposed by the public right, and the private right exists up to the point beyond which it would be inconsistent with the public right. (*Morrill v. Water Power Co.*, 26 Minn., 222, 228; *Hanford v. Railway Co.*, 43 Minn., 104.)

Any legislation, therefore, is invalid which has the effect to take away or diminish this riparian property right, either directly or by attempting to extend the paramount public right so as to encroach upon the private right. The private right extends up to the point where it becomes "inconsistent" with the public right; that is, with the public right of navigation. The public right is itself limited to the reasonable necessities of navigation. Even under the guise of navigation purposes, the public right of interference with the enjoy-

ment of the private right can not be extended arbitrarily nor beyond reasonable necessity; much less could there be any diminution or encroachment upon the private right for purposes which are not connected with the actual navigation of the river.

The better and more logical view, which really is the scientific statement of the relations between the public right of use for navigation and the private right of use by the riparian owner, is that which is set forth in a recent Minnesota case, where the doctrine of "reasonable use" is applied as between those exercising the public right and those exercising the private riparian right upon a navigable stream. That doctrine so applied recognizes the common interest and right of use of beds and waters of navigable streams between those controlling and exercising the public right of navigation and those exercising the riparian right of beneficial use and holds that each of the two classes of users must exercise their rights with reasonable regard for the other. In that case one Sprague, a log driver using the stream for navigation, allowed his logs to pass over the crest of the riparian owner's dam without due regard to the safety of the dam and injured the dam. He claimed he was not liable because the dam was a purpresture in a navigable stream and was not built or maintained by any legislative authority and that he was using the river for commerce and navigation; indeed, interstate commerce, as he was floating the logs from Minnesota to Winnipeg, Manitoba, and that his right to navigation was paramount. The Minnesota court held that the dam was not illegal, for—

subject to the control of Congress in proper cases, and independent of the statute, the right of riparian owners to construct, maintain, and operate dams upon rivers and streams in this State is firmly established by the decisions of this court. (*Crookston W. W. P. & L. Co. v. Sprague*, 91 Minn., 461, 467.)

In the same decision it was held that Sprague and the dam owner were users of the river in common and that as he exercised his public right of navigation without reasonable regard to the private right of the riparian company, he was liable.

In the Union Depot case, the city of Stillwater, under special authority of the State statute, assumed to authorize the railroad company "to use and occupy with its structures that part of Lake St. Croix in front of the city of Stillwater, between the low-water mark and the center of the lake" (Lake St. Croix is simply a widening of the St. Croix River); but the State supreme court held that the State had no proprietary interest in the land in question, but only a sovereign right of control to the extent that navigation purposes should require, and that its sovereign right of control for the specific and limited purpose of navigation, in the absence of any proprietary interest in the State, gave no right to the State to convey, lease or license, or authorize any such license; and excluded any right or interest in the State, even as sovereign, not directly connected with navigation purposes, and, with reference to the municipal license expressly authorized by State statute, the court said that it "can not affect the rights of the respondents as riparian owners, and hence cuts no figure in the case." (*Union Depot Co. v. Brunswick*, 31 Minn., 297.)

So, in the case of the public levee upon the Mississippi River to which were appurtenant valuable riparian rights and where the city of St. Paul, under express authority of State statute, assumed

to grant a license for the building of warehouses upon the shore, with use of riparian rights, it was held that the municipal license, though expressly authorized by State statute, was invalid, because the city held the riparian land only as sovereign in trust for a specific purpose, and the State held the fee of the bed only as sovereign trustee for a limited specific purpose; and, therefore, the State and city grants could not affect the private riparian property rights of abutting owners.

Even the legislature itself has no power to destroy the trust, or to divert or authorize a municipality to divert, its subject to any other purpose public or private inconsistent with the particular use for which it was granted. Neither the State nor the municipality within which the property is situated has any proprietary interest in it which either of them can sell or divert to any use inconsistent with the purpose of the dedicational grant. The State holds such land merely in its sovereign capacity, in trust for the public for the purposes for which it was dedicated. (*City of St. Paul v. Railway Co.*, 63 Minn., 330, 340, 352.)

Having seen, therefore, that Federal control in navigable streams is limited to the specific purpose of commerce, that is, navigation, and that the Federal control for that purpose does not give to the Federal Government any proprietary interest, but is only a sovereign power of control in trust for that specific public use—it follows that any grant or license and the terms of any grants or licenses must be limited with due regard to that specific purpose for which alone the Federal authority exists. Its legislation must have substantial relation to the specific public objects for which the Federal Government holds its power of control. In the words already quoted from the United States Supreme Court:

If the means employed have no substantial relation to the public objects which the Government may legally accomplish; if they are arbitrary and unreasonable, beyond the necessities of the case, the judiciary will disregard mere form and interfere for the protection of rights injuriously affected by such illegal action. (*C., B. & Q. R. R. Co. v. Drainage Comms.*, 200 U. S., 561.)

4. THE LIMIT OF FEDERAL AUTHORITY TO IMPOSE TOLLS OR CHARGES UPON RIPARIAN OWNERS.

We have already shown that the general policy of imposing tolls or charges and limitations of time upon riparian owners is inconsistent with the Federal authority over navigable streams, especially for the purpose of compelling the riparian owner to contribute to the Treasury of the Federal Government, whether for a navigation improvement fund or otherwise. There is no precedent or authority, Federal or State, which in any way would give any warrant to the levying by the United States of such tribute or contribution from riparian owners. This does not mean, however, that the riparian owner should in all cases be entirely free from any kind of a charge imposed by the Federal Government. From the very fact of its power of supervision of navigable streams for commerce and navigation, the Federal Government may assert and properly enforce the administrative authority requiring a consent or license for the construction and operation of a water-power dam upon a navigable stream as having "substantial relation to the public objects which the Government may legally accomplish" (200 U. S., *supra*), and as reasonable and within "the necessities of the case"; but the reasonableness and the necessity are not to be measured by the financial demands upon Congress for the improvement of these rivers for navi-

gation purposes, nor to create, wholly or in part, an expense fund for special or general navigation improvements. The license and consent are, in law, only for the purpose of preventing any particular structure from interfering with actual navigation at the particular point in question. The riparian owners' property right entitles him to construct and operate his dam only in the manner, to the extent, and for that length of time that such structure does not actually interfere with navigation. The provision for the license and consent is merely a supervisory or protective one; it is a merely administrative right and can not legally be exercised as an indirect means of acquiring substantial benefit for the Government nor of compelling contribution out of his financial benefits by the riparian owner in order to bring revenue to the Government. All the water-power revenue belongs to the riparian owner. Neither can the charge or toll be levied under the power of taxation, for the charge or toll is manifestly not in the nature of a tax nor levied as a tax; nor does it come within the requirements as to the manner of levying a tax.

The charge or toll therefore can not be legally justified, either as a consideration for benefits bestowed, or for the purpose of acquiring revenue, or as a contribution, or as a tax. If imposed at all, it must be imposed as a license charge and therefore, within the limits of a license charge which is permissible by a Government in connection with powers of regulation. The power of the Federal Government is in this instance one of regulation solely; and its power is only indirectly one of regulation of the use of beds of navigable streams. Its original and basic power and authority is "to regulate commerce." From this are derived certain powers to regulate navigation, that is, in the highways of commerce; and then, in the interest of navigation exclusively, to regulate the highways of commerce, that is, navigable streams. Its power to regulate the use by the riparian owner of the beds of the streams is only an incidental power, but it is merely one of regulation and a limited power of regulation for a limited specified purpose.

The legal limitations of a license fee in such instances of regulation have been defined. It is to be measured by a fee based upon the actual expense occasioned to the Government by carrying out the requirements for the issuance of the license. In the case of water-power dams it could not include any elements of extra expense to the Government in the improvement of navigation occasioned by the structures of the riparian owner; for in most cases such structures are a help to navigation, especially when located as most are with a view to the future possible use of the river for navigation. Moreover, in case any such structure were not so located, it may be made to conform afterwards, at any time, at the sole expense of the riparian owner and without extra expense to the Government—as is shown by the Union Bridge Co. case above. The charge, then, must be limited to a mere license fee and it must not be an exaction of revenue or a prohibition but purely one of regulation within the limits stated. Such right to impose a license charge under the power of regulation has been stated to be a right only.

to impose such a charge as would cover, not only the necessary expense of issuing it, but also the additional labor of officers and other expenses imposed by the business, but nothing beyond this. * * * The amount of the license fee or charge is to be considered in determining whether the exaction is not really one of revenue or prohibition, instead of one of regulation. (*City of Ottumwa v. Zekind*, 95 Iowa, 622.)

5. SOME INSTANCES OF UNJUSTIFIED AND ILLEGAL EXACTIONS AND RESTRICTIONS.

It is manifest that in many instances Congress already has gone beyond the limitations set by the United States Supreme Court in the Drainage Commissioners case. Some provisions have not "substantial relation to the public objects which the Government may legally accomplish," and are "arbitrary and unreasonable beyond the necessities of the case." (200 U. S. 561, *supra*.)

The same legal limitations on legislative action were established by the New York court. Referring to the riparian rights in the Niagara River, where an attempt was made by the State to interfere with a private right, beyond the extent that such interference was in the interest of some substantial right of the State, and beyond the extent to which such State right was interfered with by the private right, the court said:

Not even the State is at liberty to interfere with the riparian rights of the relator arbitrarily, but such interference, if attempted, must be in the interest of some substantial right of the State affected by the exercise of the right of the relator to the use of the waters of the river. (*People ex rel. Niagara Falls Co. v. Smith*, 70 App. Div., 543; *affd.* 175 N. Y., 469, citing *People v. Mould*, 37 App. Div., 35.)

So the Wisconsin supreme court holds that the sovereign trust power of control can not be extended to a proprietary interest nor to obtain revenue for the sovereign trustee. When the State tried to charge individuals for ice taken from public lakes, that court said:

Is ice, formed naturally upon the public waters of the State, State property in a proprietary sense—property which can deal with as a private person deals with his property rights? It must be assumed without discussion that no property right was acquired by the State by the mere legislative declaration that ice formed upon meandered lakes within the boundaries of the State belongs to the State as property. The legislature has no such arbitrary power, under our constitutional system, as that of changing the nature of the ownership of property by its mere fiat. It can no more accomplish that result in that way than it can change the laws of nature by a legislative declaration. Ice formed on public water is the absolute property of the State independent of any legislative assertion in that regard, or not at all. We would not for a moment indulge in the idea that any branch of the law-making power, responsible for placing upon the statute books the enactment in question, thought otherwise. The declaration as to State ownership was a mere proclamation that henceforth the State proposed to sell its ice, or give it away, according as the same was desired for domestic consumption or shipment outside the State, it being supposed, as indicated by the executive approval of the enactment, that the fact of State ownership was not open to question. Of course, if in that there was a misconception of the law, the law remains unchanged, notwithstanding. "An enactment of the legislature based on an evident misconception of what the law is will not have the effect *per se* of changing the law so as to make it accord with the misconception." (*Byrd v. State*, 57 Miss., 243, 247.)

Obviously, there can be no difference between public water in a liquid condition and in the form of ice, or between water and the land covered thereby, or the fish or fowls which inhabit the same, or any of the animals *feræ naturæ*, in respect to sovereign authority over the same. If one may be dealt with as the absolute property of the State, the others may be. It follows that if the legislation in question be valid, the right to take water from navigable lakes for shipments, though it in no way affect the character thereof for other public purposes, and the right to fish and hunt, may be subjects of sale by the State for the mere purpose of adding to the public revenues; those things which have been supposed to be public and for the individual enjoyment of all without restraint, other than by reasonable police regulations to preserve their character in that regard, things above sovereign authority to barter in as in ancient systems entirely foreign to ours, will cease to have that character, in fact, and our notions in regard thereto will have to be readjusted to the newly established condition—that which regards the State, not as a mere trustee for the whole people, of the subjects we have mentioned, but as the absolute owner thereof, with power to deal therewith as a private person might if he were such owner.

We have by no means exhausted the decisions of the courts on the subject, but it seems useless to add more since there are no contrary decisions. We are safe in saying that no court has more definitely declared that the interest of the State in its navigable waters and the lands under them, and all the incidents thereof, are purely of a trust character, the beneficiaries, on a plane of perfect equality, being the whole people of the State, than this court has done in recent years. In doing that, it is believed, the people have been rescued from all dangers of losing any of those common rights by the invasion thereof by claims of private owners, if such dangers ever existed. That judicial service would be of little value if mere State ownership for the preservation of the common rights were so perverted as to support a claim of State ownership in hostility to such rights, a principle which, in the possibilities of its development, might lead to a serious impairment, if not utter ruin, of a most important trust. Such a conservation would be a very demoralizing example of how the subject of a trust may be converted to the private benefit of the trustee.

* * * * *

The State has no such interest in the beds of navigable lakes that it can treat the same as a subject for bargain and sale or grant the same away to private owners under the guise of police power or otherwise; that it is a mere trustee of the title thereto, under a trust created before the State was formed, to which it was appointed as trustee by its admission into the Union; that it has no active duty to perform in respect to the matter, or power over the same, except that of mere regulation to preserve the common right of all; that its power over the res is limited by the original purpose of the trust; that it is, in effect, a mere trustee of an express trust, a trustee with duties definitely defined. Those principles are too firmly established to admit, at this late day, of being seriously questioned. It seems clear that if the State can not sell the bed of a navigable lake, it can not sell the waters thereof, or the fish therein, or the fowls that resort to its surface, or the ice that forms thereon. The rules that limit its right as to one of those matters limit its power as to all.

So the rights of the Federal Government in highway streams are only those of a trustee of an express trust—to regulate commerce.

The Wisconsin court continues:

The State can no more appropriate to itself the ice formed upon its navigable lakes, or other navigable waters, than one person can rightly appropriate the property of his neighbor against the latter's will, and pass that title by bargain and sale, or otherwise, to the third person. Since the whole beneficial use of navigable lakes is unchangeably vested in the people, every one within the State having the right to enjoy the same so long as he does not invade the like right of another, without any interference by claim of paramount right to the subject thereof, any law invading that individual possession is, in effect, an invasion of the right to liberty and property without due process of law, contrary to said fourteenth amendment. Any such invasion for the purpose of adding to the public revenues, exacting from a person, for the benefit of the State, compensation for the enjoyment of a right which belongs to him and which he has a right to enjoy without paying therefor, violates section 13, Article I, of the State constitution, prohibiting the taking of private property for public use without just compensation. (*Rossmiller v. State*, 114 Wis., 169.)

In this Wisconsin case, the attempt was by the State, the mere sovereign holder in trust for the purpose of regulating for the general public benefit, to extend its authority of mere regulation to making a prohibitive restriction against, and levying tribute to itself out of, the exercise of the private right for whose benefit it was trustee. Much less, then, could the Federal Government, as trustee, holding in its sovereign capacity the power to regulate highway streams for one specific public purpose, extend that power so as to invade the private property rights of riparians who are not beneficiaries of the trust, but who have proprietary rights of user so far as not inconsistent with the actual use by the public for the specific purpose, to protect which, alone, the sovereign power in trust was reserved. It can not impose arbitrary or prohibitive restrictions or burdens on the riparian nor exact revenues from the proceeds of his beneficial use. To do so is to assert a proprietary interest which does not

belong to it, while at the same time it invades the property right of the riparian.

This wide difference between the mere power of the sovereign, as sovereign, to regulate navigation in highway streams and the right of the sovereign as proprietor to assert proprietary interest in the beds and waters themselves, has been too much overlooked. Some instances follow:

(1) *THE DAM ACT OF JUNE 23, 1910.*

The act of Congress of June 21, 1906, to regulate the construction of dams in navigable rivers, was amended in 1910. This 1910 act contains the following provisions:

That in approving the plans, "such conditions and stipulations may be imposed as the Chief of Engineers and the Secretary of War may deem necessary to protect the present and future interests of the United States." These words "interests of the United States" can not of course enlarge the authority, which is limited to navigation purposes, to any other general or special interest. The act then specifies certain classes of conditions and restrictions as those included in the general power given to the Chief of Engineers and the Secretary of War, for instance:

That the dam owner shall construct such locks and other structures in connection with his dam "as may be necessary in the interests of navigation."

That whenever the Congress shall authorize locks and other structures for navigation purposes, the owner shall convey to the United States the title to such land as shall be required, and shall grant the use of water power sufficient to operate the locks and structures built by the Government.

Then, adding to the provisions of the 1906 act, it was provided:

"That in acting upon said plans as aforesaid, the Chief of Engineers and the Secretary of War shall consider the bearing of said structure upon a comprehensive plan for the improvement of the waterway over which it is to be constructed with a view to the promotion of its navigable quality and for the full development of water power; and, as a part of the conditions and stipulations imposed by them, shall provide for improving and developing navigation, and fix such charge or charges for the privilege granted as may be sufficient to restore conditions with respect to navigability as existing at the time such privilege be granted or reimburse the United States for doing the same, and for such additional or further expense as may be incurred by the United States with reference to such project, including the cost of any investigations necessary for approval of plans and of such supervision of construction as may be necessary in the interests of the United States: *Provided, further,* That the Chief of Engineers and the Secretary of War are hereby authorized and directed to fix and collect just and proper charge or charges for the privilege granted to all dams authorized and constructed under the provisions of this act which shall receive any direct benefit from the construction, operation, and maintenance by the United States of storage reservoirs at the headwaters of any navigable streams, or from the acquisition, holding, and maintenance of any forested watersheds, or lands located by the United States at the headwaters of any navigable stream, wherever such shall be, for the development, improvement, or preservation of navigation in such streams in which such dams may be constructed."

There is also a proviso for the condemnation of the dam and works in case the license shall be revoked, and a provision for the termination of the license in 50 years, this time limitation not being applicable to any dam heretofore authorized by the United States or by any State. (Act of June 23, 1910, 36 Stat. L., 593, 594-595.)

Under the law as to limitation of Federal control, already shown, it is manifest that the above statute goes not only to, but in many respects beyond, the limits for which there is any basis of authority in law.

It has been shown that the riparian dam owner is entitled to all the beneficial use, including all revenue, from the water power, not

only to the extent that his use is consistent with navigation, so far as physical structures are concerned, but also for the entire period of time up to and until his structure shall be necessarily affected by actual navigation improvement. Consequently, if any changes are required in his dam, he can not rightfully be compelled to bear the burden of the expense, except so far as, and until, such expense is made necessary by reason of his structures.

Nevertheless, regardless of the fact that his water-power dam is an assistance to natural facilities for navigation and is to be utilized by the Government as such assistance, he is compelled, at his own expense, to construct locks and to furnish power to operate them. If the water-power dam had not been constructed, the entire expense of dam, locks, and operation would be upon the Government. But by this statute the very fact that the riparian owner has exercised his riparian rights by building the dam is made the basis of imposing an extra charge or expense for the benefit of navigation beyond the extra navigation facilities afforded by his dam. Such an exaction imposes a contribution upon the riparian owner out of his private riparian rights beyond the necessary expense or damage which is incidental to his merely yielding his rights and advantages to the actual necessities of navigation.

The same is true of the provision that locks should be made at the expense of the dam owner at any time afterwards, if, in connection with other improvements, such locks become necessary for navigation purposes.

Still more confiscatory are the terms of the provisions above quoted for the imposition of a money charge to be paid by the dam owner. The illegality of this charge is attempted to be circumvented by the provision, in terms, that the charge is to reimburse the Government for restoring the natural condition of the river when such restoration shall be deemed necessary for navigation purposes. Such charge is really intended to be imposed, independent of the practicability or probability of navigation at the point in question. Moreover, it is imposed in advance of a mere theoretical and perhaps impossible navigation use.

At most points upon a navigable stream where power dams are created, "the point of navigability" to which, under his riparian right, the riparian owner may construct and maintain structures for his own beneficial use, independent of navigation, does not exist. In such cases he may, of course, under his riparian right and without regard to navigation, maintain structures to the center of the stream and have and obtain all the beneficial use, including revenue, from such structures, and continue in the possession of such benefits until they are necessarily modified by actual navigation improvement. Here, too, the riparian owner is made to contribute to the Government out of the benefits which he is entitled to retain.

Of the same character is the further provision that the riparian owner, whose plant is situated below reservoirs maintained and operated by the Government for navigation purposes, shall contribute to the expense of such reservoirs and their operation, by submitting to a charge, to be paid out of his revenues. The right of the Government to construct and operate headwater reservoirs for navigation can not be disputed, but these are not required, nor is the expense of construc-

tion and maintenance increased, by reason of the power dam below; neither is their efficiency decreased or affected by the power dam. The construction and operation of the power dam is in no degree "inconsistent" with the exercise of this public right for navigation purposes, whereas, as we have seen, it is up to the limit of the public rights that the private rights and beneficial use belong to the riparian. It is a mere incident if the water power is improved by such reservoirs, but the water-power development is in no degree in conflict therewith. Here, again, is imposed a contribution which is not warranted in law.

To the same effect is the time limitation, and the principle is the same whether the limit be five years or fifty years, although not as prohibitive in degree.

The vice of these limitations lies in the erroneous assumption, upon which they are founded—that the Federal Government has an interest in, that it has or controls the beneficial use of water powers as such, because they are located on streams which are among the class of highways of commerce, and that such interest extends beyond the limits of a power purely regulative of commercial navigation.

Such provisions disregard the property rights of the riparian owner and the well-fixed rule that, so far as not inconsistent, and so long as not inconsistent, with the actual needs of navigation, he has, as riparian owner, a property right to every element of beneficial use in the beds and waters of the stream, as appurtenant to his riparian land, and not only that, but to all the beneficial use and to all the advantages, benefits, and revenues therefrom.

(2) FEDERAL RESTRICTIONS UPON THE NIAGARA FALLS POWER.

From what has been shown, it is clear that the State of New York holds the fee of the Niagara River and of the St. Lawrence River, from the New York shore to the international boundary line, which is the center of the river; however, with no proprietary interest, but only as sovereign in trust for the specific purpose of navigation. Even if there are any other public uses, except navigation, for which there is a sovereign holding in trust, such holding is by the State. It is also clear that the riparian owner, not only by the Federal law and decisions but also by the State law and decisions, owns the riparian rights, including all beneficial use of the water power, with the right to use the bed in the development and operation of such water power. Further, that these rights of the State and of the riparian owner are subject only to the limited Federal power of regulation for navigation.

Nevertheless, after certain riparian owners, in the exercise of their riparian rights, confirmed by the legislature of the State of New York, had made large expenditures in the development of water-power plants at Niagara Falls with a total capacity of 20,000 cubic feet per second of water, and requiring the operation at full capacity in order to obtain the most economical and beneficial use, Congress in 1906 arbitrarily limited the quantity to be used to 25 per cent less than capacity. (Act of June 29, 1906, 34 Stats. at Large 626.)

More than that, Congress has since, in terms, kept the same restriction, although in 1909-10 a treaty was made with Great Britain by

which the United States reserved the right to permit the use of a total of 20,000 cubic feet per second.

Treaty between United States and Great Britain in regard to the boundary waters between United States and Canada, signed January 11, 1909, proclaimed May 13, 1910. (Treaty Series, No. 548.)

This treaty was made for the express purpose of limiting the diversion of water from Niagara River, "so that the level of Lake Erie and the flow of the stream shall not be appreciably affected." (Art. V.)

The same treaty recognized the equities, if not the legal rights, of the riparian owners who had made investments prior thereto upon the strength of their riparian rights and grants from the State, expressing "the desire of both parties to accomplish this object with the least possible injury to investments which have already been made in the construction of power plants on the United States side of the river," etc. (Art. V.)

The most careful scientific observations which could be made showed that the effect of operating the power plants at full capacity upon the levels of Lake Erie and the Niagara River would at most only lower such levels a fraction of an inch, and that such levels would not "appreciably" be affected. The river is admittedly not actually navigable and can never be actually navigable at the points in question. It is thus demonstrated that no interest of or connected with navigation, either directly or indirectly, would be affected.

The real and only avowed object of the act of June 29, 1906, and the only object of the terms of the treaty of 1910, so far as the Niagara River is concerned, was not to protect commerce or navigation, either directly or indirectly, but to prevent interference with the "scenic grandeur of Niagara Falls."

The title of the act states that the control and regulation contemplated are "for the preservation of Niagara Falls." But the Falls are not only unnavigable, but are an insurmountable obstacle to the navigation of the river.

Furthermore, the act authorizes restrictions to be made by the Secretary of War to prevent interference with "the scenic grandeur of Niagara Falls" (sec. 2).

Again, this act authorizes a treaty with Great Britain, the sole object of such treaty being stated as "for such regulation and control of the waters of Niagara River and its tributaries as will preserve the scenic grandeur of Niagara Falls and of the rapids in said river" (sec. 4).

The treaty was authorized only for that purpose; and while it contains provisions relating to other boundary waters with a view to protecting navigation, the provisions as to Niagara Falls are based upon the fact that "the high contracting parties agree that it is expedient to limit the diversion of water," etc.

It is thus manifest that the sole object of the act of June 29, 1906, and of the treaty of 1910, with reference to Niagara Falls, was to protect "scenic grandeur."

Under the law of water rights and water powers, as above shown, there was no basis whatever for the interference of Federal authority. If there were any legal basis for the exercise of Federal control on the ground of protecting "scenic grandeur," then Congress would have the authority to prevent water power development on any stream in

the United States, whether navigable or unnavigable; for every waterfall has, proportionate to its location and size, the quality of adding scenic beauty to the landscape view. It is, of course, within the power of the Federal Government or that of a State to acquire the riparian land and thereby the waterfall and to preserve the same, alone or in connection with a public park, for the purpose of pleasing the sense of beauty; but there can be no authority for regulation based alone upon the power to preserve scenic beauty. Indeed, under our law of property, flowing streams were intended for the use of man, and these rights of use vary in extent and nature as the natural features appurtenant to the land vary, and the right of their enjoyment goes with the land.

If there were any sovereign right of control to protect "scenic grandeur," it is a right which has not been reserved to and does not belong to the Federal Government, but entirely to the State of New York. It has been shown, however, that no means of observation could detect any appreciable difference in the appearance of the falls occasioned by such use of the water for power. In any event, the rule de minimis would apply. There would be no ground even for State interference, assuming that the State had the power. It is sufficient to note, however, that the Federal Government had no authority to make or enforce the restrictions attempted. They were unlawful, not only for lack of authority, but for the more important reason that at the same time they had the effect arbitrarily to deprive the riparian owner of a part of his beneficial use, which the law of property rights gave to him and which rights had been confirmed as property rights, not only by the legislature, but by the courts of New York (*People ex rel. Niagara Co. v. Smith*, supra). The restriction by Congress under the act of 1906 to an amount 25 per cent below capacity is therefore void.

It happens that the amount provided for by the treaty of 1910 is the same as the total capacity of established water-power plants; but if either riparian owners hereafter exercising their riparian rights, or present riparian owners of established plants, shall wish to develop and use beyond the amount limited by the treaty, especially if permission for such further use is made by the State of New York, the limitations of the treaty can not necessarily limit an increased use. It being established that the use and the right of use is a private property right, and that the restrictions involved are not for the purpose of or necessary for the regulation of the stream for navigation, the limit of Federal authority has been reached. Property rights can no more be taken away or diminished by the Federal Government under such treaty provisions than by the provisions of an act of Congress.

This is not to deny the paramount treaty-making power of the Federal Government, nor that, in some instances, treaty stipulations entered into in accordance with the constitutional authority and powers reserved to the Federal Government, may supersede State laws and constitutions, and even the law of private property rights. But the Constitutional powers reserved to the Federal Government with regard to waterways, which, as we have seen, include international boundary streams, are expressly limited. It can not, therefore, beyond the limits of that reserved authority, make stipulations

with a foreign nation by which private property rights are destroyed, and leave the private property owner bound by such stipulations, or at least without leaving to him a remedy for his injury.

"A treaty, no more than an ordinary statute, can arbitrarily cede away any one right of a State or of any citizen of a State." Treaty provisions must be made within the constitutional powers of Congress over the subject matter. (License Cases, 5 How., 613; 1 Butler "Treatymaking Power of United States," p. 402, note.)

Moreover, neither by treaty nor by statute can such restrictions be justified on the ground that the waters in question form an international boundary. Assuming that the Federal Government had supervisory powers arising from the fact that the stream is such boundary, its powers would be limited to such restrictions or regulations as are necessary to preserve the boundary. The real boundary, however, is not the river itself, but the center of the river. As a matter of fact, the diminution of the waters passing over the crest of the Falls does not in any degree change the line of the center of the stream. As shown above, the riparian rights are the same upon international boundary streams as upon other navigable streams. This is shown in the decision of the Federal Supreme Court, cited above, that the riparian owner on the Sault Ste. Marie holds a fee to the middle of the stream; and, further, that the riparian rights are not affected or diminished by reason of the fact that the stream is an international boundary. (United States v. Chandler-Dunbar Co., 209 U. S., 447.)

But under the same real and avowed purpose of protecting "scenic grandeur," the act of June 29, 1906, goes further; it restricts the quantity of electrical power that may be transmitted from Canada into the United States to 160,000 horsepower—produced by about 8,000 cubic feet of water per second. (Sec. 2.)

It has been demonstrated as a fact that this restriction, and the restriction placed on the American side, cut down the amount allowed to much less than the capacity of the plants which had been established at the time of the act, and therefore occasion a substantial loss in revenue to the riparian investors, and also, by preventing operation at full capacity, increase the development cost per horsepower produced.

More than that, the amount permitted to be sold upon the American side is much less than the actual demand for power; and industrial development in the vicinity of Niagara which would, otherwise than for such restrictions, be promoted and increased, is comparatively at a standstill.

The restrictions, therefore, are injurious, not only to the riparian owner, but to the general public, and are inexpedient.

However, the important fact here is that the restrictions are unauthorized and invalid. We have shown this as to the restrictions on the American side, but the same objections, and others, apply to the restrictions upon transmission from the Canadian side.

The only authority there can be for such Federal restriction is the power to regulate commerce. The restriction, however, is not a regulation of commerce, but a prohibition. It prohibits the supply of a product to a market in which there is a ready demand. The demand, moreover, is one created by public needs, the fulfilment of which would bring great public advantage.

Even if the diversion prevented would, in fact, make any appreciable difference in the "scenic grandeur" of the Falls, that is a matter which, as we have said, is not within Federal authority.

It is a self-answered proposition to assert that the object of preserving "scenic grandeur" is an object within the power of regulating commerce. The assertion of such power is directly contrary to the principles laid down in the cases above cited. It has not "substantial relation to the public objects which the Government may legally accomplish." It is outside those objects, and is therefore "arbitrary and unreasonable and beyond the necessities of the case." (200 U. S., 561, *supra*.) It is not "in the interest of some substantial right," given to the Federal Government by the Constitution, "which is affected by the exercise of the right of the relator (the riparian owner) to the use of the waters of the river." (Niagara Falls case, 70 App. Div., 543; *aff'd*, 175 N. Y., 469.)

Indeed, the restriction as to transmission from the Canadian side, by being continued since the treaty of 1910, is still more unreasonable and invalid. That treaty limits the total amount of water to be used for power on the Canadian side to 36,000 cubic feet per second, and on the American side to 20,000 cubic feet per second. On the Canadian side the total amount permitted by the treaty is not diminished; on the American side the treaty amount is diminished about 25 per cent.

Assuming all the provisions, both treaty and of the act of June 29, 1906, to be valid, this restriction against transmission from the Canadian side has no effect in diminishing the total amount diverted at the Falls, whether such diversion be for one object or another. It has the effect only of stimulating industrial development on the Canadian side and of retarding industrial development on the American side. This restriction amounts, in short, to a substantial subsidy to investors in Canada at the expense of the American investors.

And yet this arbitrary, uncommercial, and unwise restriction is claimed to be founded on the Federal authority to "regulate" commerce. It is simply an instance of legislative suicide, incited by a mistaken sentiment for "scenic grandeur." It may be picturesque, but it is neither lawful nor expedient.

[As to the facts and law with reference to legislation to preserve the "scenic grandeur" of Niagara Falls, see the following documents: Report of Hearings before House Committee on Foreign Affairs, January 16, 1912, and following days, on House bills "to give effect to the fifth article of the treaty between the United States and Great Britain, signed January 11, 1909;" also report of hearings before House Committee on Rivers and Harbors, January, 1911, same subject; also Report of Hearings before House Committee on Rivers and Harbors, April, 1906, on Burton Act; also Report on "Water Powers of Canada," published by Commission of Conservation of Canada, September, 1911.]

It is apparent from the foregoing that Federal legislation affecting private water powers upon navigable streams has already, in many instances, gone beyond the legal and proper limits of Federal authority. It remains only to call attention to some considerations, on the ground of policy, which should influence future legislation on this subject.

V. THE QUESTION OF POLICY.

From what has already been shown the general policy which should be pursued by the Federal Government is apparent, and the following suggestions as to such policy would seem to follow as a rule of law:

1. The right of the riparian owner to all the beneficial use of the water powers appurtenant to his land is subject only to the limited power of the Federal Government to regulate the stream for navigation purposes. Such powers of regulation can not be exercised as against the riparian right except to the extent and for the time that the necessities arising from actual improvements for navigation require that the riparian right of user should yield.

2. The obligation upon the riparian owner that his user shall yield to necessary improvements for navigation does not include the obligation that he shall contribute out of the benefits of his right of user to the expenses which it is incumbent upon the Government itself to bear for navigation improvements.

3. The power of the Government is a restricted one, and for a restricted purpose. Its limitations may be and are clearly defined. Such power or authority of the Government does not arise from, nor give to it, either as sovereign or proprietor, any right to the beneficial use of the water powers. It does not, directly or indirectly, hold or have any interest in the water power, or in any of the advantages, financial or otherwise, accruing from the beneficial use thereof.

4. The property right of the riparian owner is clearly defined. Therefore, legislation should be framed with a view to protecting that private right rather than infringing upon it. Much less should the Government attempt to legislate to itself, or to a State, or to the public, any advantage or benefit arising from the use of such water power. There is no foundation in law for the making of restrictions or prohibitive conditions, or the levying of tributes or charges for a privilege or license to a riparian owner to develop, operate, and enjoy the advantage of his water power.

5. Federal control of water power is expressly limited to the sovereign power of control for the specific purpose of navigation, and is limited to the reasonable necessities of such navigation. All other powers of control, including all proprietary rights in the beneficial use of the water powers, have passed to the States; and the States, by adjudications which are final on this subject, have confirmed on the riparian owner all proprietary rights.

6. The Government, for the purpose of exercising its power of regulation of commerce, is protected at all times by the law of property rights, that the riparian owner's right of user of the bed and stream for water power is subject to yield to the necessities of navigation.

Legislation should be carefully framed with a view to protecting and confirming the riparian right, and so as to avoid any invasion, direct or indirect, of the private property right of the riparian to make investments, and in investments already made.

There is a disposition and an avowed purpose in some quarters to urge the enforcement of legislative restrictions, conditional prohibitions, tolls, and charges, against the riparian owner, with a view to appropriating to the Government or the State that which really is revenue, or, in other words, a beneficial advantage from the use

of water power. While this manifestly would be illegal if done directly, there is a disposition to accomplish the result indirectly by legislation enacted and enforced under the guise of navigation regulation. The attempt is, in substance, one to dispossess the riparian owner from certain rights and privileges, which, by his unqualified patents, passed to him, and no right to which was, impliedly or otherwise, reserved either to the Federal or State Government or to the public at large. The tendency is to disregard the sanctity of private property. With reference to such tendency, in the matters now under consideration, I wish to call attention to certain authorities.

It is often urged, and urged with respect to State and National legislation in regard to water power, that it would have been a better policy if, from the beginning, the Government had reserved, or if the States had reserved, some right of direct interest in these natural resources, which, admittedly, has not been done where the riparian owner holds his land under a nonrestricted patent or grant. Therefore, it is urged that, despite the fact that the courts have confirmed the right of the riparian to all the beneficial use of the water powers, the Federal and State Governments, through their legislatures, should restrict that beneficial use to the smallest limits. It is even urged that the legal limits governing riparian property rights should not be observed necessarily by the express terms of legislative enactment, but that the acts of Congress or of the State legislatures should in terms, either directly or indirectly, assert in the Federal Government or in the State, the ownership or right of interest in such water power, and have such provisions enforced by the courts, so far as possible. Or, if it is not done directly, it is urged that legislation should be upon the theory that such diminution of the established property right of the riparian can be accomplished, with financial benefit to the State, by imposing restrictions, tolls and charges, etc., and leaving it to the court to draw the line between that which is enforceable against the riparian owner, and that which is not. This has been the policy, apparently, of some of the legislation urged upon Congress. It has been, avowedly, the policy of certain State legislation—for example, Wisconsin. In the latter State, the 1911 legislature passed a statute practically confiscating to the State all riparian rights in that State, and at the end of the act it was stated, in substance, that the legislature had gone, not only to the limit of its constitutional right, but, in many instances, probably beyond; and the courts are asked to save to the State as much as they conscientiously could under the broad provisions which the act contained. (Chap. 652 Wisconsin Session Law, 1911.)

[On January 30, 1912, the Wisconsin Supreme Court declared the statute last referred to unconstitutional. I should like to print that decision here in full and commend it to the careful attention of all legislators. (See *People ex rel. Wausau St. Ry. Co. v. Bancroft*, Atty. Genl., Northwestern Reporter, p. 330).]

But against these tendencies and attempts indirectly to confiscate, note what the courts say:

The United States Supreme Court recently said:

The courts ought not to bear the whole burden of saving property from confiscation, though they will not be found wanting where the proof is clear. The legislatures and subordinate bodies, to whom the legislative power has been delegated, ought to

do their part. Our social system rests largely upon the sanctity of private property, and that State or community which seeks to invade it will soon discover the error in the disaster which follows. The slight gain to the consumer, which he could obtain from a reduction in the rates charged by public-service corporation, is as nothing compared with his share in the ruin which would be brought about by denying to private property its just reward, thus unsettling values and destroying confidence. (*Knoxville v. Water Co.*, 212 U. S., 1, 18.)

The Wisconsin Supreme Court had already said:

Since the whole beneficial use of navigable lakes is unchangeably vested in the people, every one within the State having the right to enjoy the same so long as he does not invade the like right of another, without any interference by claim of paramount right to the subject thereof, any law invading that individual possession is, in effect, an invasion of the right to liberty and property without due process of law, contrary to said fourteenth amendment. Any such invasion for the purpose of adding to the public revenues, exacting from a person for the benefit of the State, compensation for the enjoyment of a right which belongs to him and which he has a right to enjoy without paying therefor, violates sec. 13, art. I, of the State constitution, prohibiting the taking of private property for public use without just compensation.

It is a matter of keen regret that we are compelled to place the stamp of judicial condemnation upon the work of coordinate branches of the government. That is true in any case, but it is especially true here, since it turns to naught a strongly fortified supposed new discovery of a rich source for adding to the revenues of the State. (*Rossmiller v. State*, 114 Wis., 169, 188.)

In another case in Wisconsin the State legislature attempted, by statute, to forbid the riparian owner from placing structures in the bed of a navigable river which did not interfere with navigation, but the court declared the statute unconstitutional and void, as an attempt to interfere with the property right of the riparian owner. The court said:

I can not subscribe to the omnipotence of a State legislature, or that it is absolute and without control, although its authority should not be expressly restrained by the constitution or fundamental law of the State. * * * The nature and ends of the legislative power will limit the exercise of it. * * * There are certain vital principles in our free republican government which will determine and overrule an apparent and flagrant abuse of legislative power—as to authorize manifest injustice by positive law, or to take away that security of personal liberty or private property for the protection whereof the government was established. An act of the legislature (for I can not call it a law) contrary to the great first principles of the social compact can not be considered a rightful exercise of legislative authority. (*Janesville v. Carpenter*, 77 Wis., 288, 303.)

The Wisconsin Supreme Court in the last case cites and quotes the language of the United States Supreme Court. Indeed, the words above quoted were taken from the United States Supreme Court decision. (*Calder v. Bull*, 3 Dall., 387, 388.)

In Michigan a similar attempt was made by the legislature, by an arbitrary establishment of a dock line across riparian land, to exclude the riparian owner from improving for water-power purposes a portion of the river which was not actually navigable; but the court set aside the act as an infringement of the private right, and said:

The police power of the legislature of this State is not omnipotent. It can not, under the guise of regulation, destroy property rights arbitrarily and without reason. (*Grand Rapids v. Powers*, 89 Mich., 94, 113.)

Again, where the New York Legislature attempted, under the guise of public regulation for public purposes, to make restrictions upon the use by the private owner, which were not necessary to protect the public use of navigation, the New York Supreme Court said:

The legislature, except under the power of eminent domain, upon making compensation, can interfere with such stream only for the purposes of regulating, preserving, and protecting the public easement. Further than that, it has no more power over

these fresh-water streams than over private property. It may make laws for regulating booms, dams, and bridges only so far as is necessary to protect and preserve the public easement, and when it goes further, it invades private rights protected under the Constitution. (*Chenango Bridge Co. v. Paige*, 83 N. Y., 179, 185.)

These restrictions upon legislative action are recognized as well established:

A statute making it unlawful to drive piles or build piers, cribs, or other structures in the bed of a private navigable river without regard to whether the same obstruct navigation was held invalid as depriving the riparian owners of their property without compensation and without due process of law. (1 *Lewis on Eminent Domain*, sec. 70.)

Any failure to keep legislation affecting private water powers within the constitutional authority of the Federal Government is necessarily followed by results which are exceptionally harmful and which are the concrete indication of a most vicious legislative tendency. It indicates a disregard for the rights of the States, as well as for the rights of private property.

Legislation affecting water powers which, either in terms or in effect, exceeds the limited and specific purpose for which the Federal Government has the power to legislate, and which goes beyond the exclusively sovereign power of control of the specific public purpose of navigation, arrogates to the Federal Government sovereign and proprietary rights, not only of legislation, but of ownership and control, which belong to the State. It is not only an encroachment upon the rights and jurisdiction of the States, but it becomes also a direct encroachment upon, and repugnant to, State policy, State laws, and State grants, already declared and enacted by such States pursuant to, and within the limits of, the authority and power belonging, under the Constitution, alone to such States.

But such legislation is not only paternalistic in the extreme. It has the effect also of diminishing or destroying the private property right of the riparian owner to the beneficial use of the easements legally belonging to his riparian land, a private property right vested by the common law of the State, which is the final judge as to the limits of such legal right. Such legislation, therefore, becomes confiscatory.

The wise policy is that, instead of stretching legislation against the riparian beyond, or even to, the limits of legal and constitutional restraints, the Government should do everything possible to encourage industrial development, and to insure to investors in such development the utmost security. The policy should be to encourage, rather than to discourage, financial investment, not only in water powers already developed, but in further development enterprises. The Government should not seem, even in terms, in any degree, to assert a right of control inconsistent with the known and established law of property rights. Legislation should not be with a view to putting as much burden as possible upon the riparian user of the water powers, even if such burden would inure to the advantage of the Government or of the public. The object of such legislation should be to protect the property rights of the riparian to the fullest extent consistent with the actual necessities of navigation.

It is evident that a wise and considerate policy, one that takes into consideration the law of property rights of the riparian, as the same have been clearly established, will leave to him all the beneficial use of the water powers, and for all time, so far as can be done con-

sistently with a proper and necessary improvement of navigable streams for commercial navigation. It is further evident that legislation can not legally be based upon any purpose or desire of the Federal Government to accomplish any object, directly or indirectly, with regard to such streams, except the one specified purpose of navigation, and that, even for the purpose of navigation, the lawful rights of the riparian to the beneficial use of the bed and waters should be interfered with and damaged to the least possible extent consistent with the actual improvements reasonably necessary to make the stream navigable at the point where such riparian use is feasible.

I present the foregoing for the careful consideration of your honorable commission.

Respectfully submitted.

ROME G. BROWN.

NOVEMBER 28, 1911.

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PRESERVATION OF NIAGARA FALLS

HEARINGS

BEFORE THE

COMMITTEE ON FOREIGN AFFAIRS

HOUSE OF REPRESENTATIVES

JANUARY 16, 18, 19, 20, 23, 26, AND 27, 1912

ON

H. R. 6746

BY MR. SMITH OF NEW YORK: A BILL TO GIVE EFFECT TO THE
FIFTH ARTICLE OF THE TREATY BETWEEN THE UNITED
STATES AND CANADA, SIGNED JANUARY 11, 1909

AND

H. R. 7694

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OF THE TREATY BETWEEN THE UNITED STATES AND
GREAT BRITAIN, SIGNED JANUARY 11, 1909

COMMITTEE ON FOREIGN AFFAIRS.

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WASHINGTON

GOVERNMENT PRINTING OFFICE

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PRESERVATION OF NIAGARA FALLS.

COMMITTEE ON FOREIGN AFFAIRS,
HOUSE OF REPRESENTATIVES,
Tuesday, January 16, 1912—10.16 a. m.

Mr. WILLIAM SULZER, of New York, chairman.

The CHAIRMAN. We will take up for consideration this morning the bills relating to Niagara Falls, introduced by Mr. Simmons and by Mr. Smith of New York. We will hear from Representative Simmons. You may proceed, Mr. Simmons.

Mr. FLOOD. Mr. Simmons, what is the number of your bill?

Mr. SIMMONS. H. R. 7694.

The CHAIRMAN. Proceed, Mr. Simmons.

Mr. Chairman and gentlemen of the committee, the matter you have under consideration is of the deepest importance to me for the reason that I not only represent the district in which Niagara Falls is located, but I live in the city of that name.

I lived there before the great electrical development was commenced, and I have therefore had the very best of opportunities to observe the conditions as they have arisen, and under the circumstances feel that I fully understand the existing situation.

Prior to the advent of the electrical development of Niagara Falls the people who resided there were engaged almost entirely in entertaining tourists who visited that point.

There was a population of about 10,000 people residing in the villages of Niagara Falls and Suspension Bridge.

These people had their capital invested in hotels, stores, boarding houses, and the like, and the business of entertaining tourists was the principal occupation of these villages.

These people had a greater interest in the Falls of the Niagara than any other people in the world; in fact they were the only people who had a financial interest in the Falls.

If any movement had been started (or even contemplated) which in their opinion would have a tendency to deleteriously affect the scenic beauty of the Falls, and thereby lessen the tourist travel to that place, these people would have been the first to raise their voices in opposition, and, in my judgment, would have had the most equitable right to object, for the reason that they were the only people who had vested interests in the Falls.

I am here to-day to represent those people and also 25,000 additional residents who have made Niagara Falls their place of residence since the beginning of the power development; and I wish to say to you that if it were possible to have every one of them appear before this committee they would frankly and unanimously testify that the diversion of the waters of the Niagara River for power purposes has not harmfully affected the scenic beauty of the Falls in the remotest extent, and that the tourist travel to the Falls has not been lessened thereby, but, on the contrary, has been increasing.

This is no issue, in my judgment, that contemplates doing a thing which would seriously injure the Niagara Falls, or which would in any perceptible way change their scenic status.

We merely desire legislation which will permit the use for industrial purposes of that portion of the water of the Niagara River that is not necessary for scenic beauty, and thus conserve the use of such water for the benefit of a great section of our country which is contiguous to the Falls.

This is the issue—the only issue.

The question along these lines has been taken up by the United States Government and by Great Britain.

The two countries, desiring to determine what proportion of the water of the Niagara River could be diverted for commercial uses without impairment of the scenic side of the proposition, appointed able representatives.

The representatives of the United States met the representatives of the Dominion of Canada and the question was fully and carefully considered to the end that the joint commission reported their findings, which were embodied in a treaty, which treaty has been adopted by the United States and Great Britain.

Mr. FLOOD. When did this power development begin at Niagara Falls?

Mr. SIMMONS. About 1895.

Mr. MORRIS COHN, of Niagara Falls. That is hardly correct. The company that I represent had a canal put through in 1873.

Mr. SIMMONS. I supposed he meant the development on a large scale.

Mr. FLOOD. That is what I meant, Mr. Simmons.

By the terms of this treaty we were permitted to divert 20,000 cubic feet of water per second and Great Britain (i. e. Canada) was permitted to divert 36,000 cubic feet per second.

We thought that this division was unfair to us in that our proportion was only about one-half of the amount allotted to Canada, but nevertheless, we are perfectly satisfied with the terms of the treaty and all we are now seeking to do is to secure legislation which will permit us to take the small additional amount of water allowed us under the treaty.

Mr. FLOOD. When was that treaty negotiated or concluded?

A MEMBER. 1910.

Mr. SIMMONS. Of the 20,000 cubic feet allowed us under the treaty, permits have been issued by the Secretary of War to the amount of 15,600 cubic feet.

The CHAIRMAN. The convention or treaty between the United States and Great Britain was concluded January 11, 1909.

Mr. SIMMONS. There remains to us an additional amount of 4,400 cubic feet, which we desire to take to bring us to our maximum.

Therefore, in considering this matter, I take it that the question involved is as to whether or not the 4,400 cubic feet of water could be diverted without serious injury to the Falls.

Our country has willingly consented that Canada may divert from the Niagara River, out of the waters owned jointly by Great Britain and the United States, 36,000 cubic feet per second; and in view of this I could not conceive it to be the part of wisdom for us to restrict ourselves to our present diversion of only 15,600 cubic feet and deny

ourselves the advantages of the small additional amount of 4,400 cubic feet which Canada (Great Britain) has willingly consented we may take.

Mr. DIFENDERFER. How much of the 36,000 feet do the Canadians divert at this time?

Mr. SIMMONS. I think I have the figures here.

Mr. DIFENDERFER. But they do not use all they are allowed to under the treaty?

Mr. SIMMONS. Oh, no.

A MEMBER. How much are we allowed under the treaty?

The CHAIRMAN. Twenty thousand cubic feet.

Mr. SIMMONS. The taking of this 4,400 cubic feet of water will not, in my opinion, have the slightest effect upon the eye.

I do not believe that any man could stand near the brink of the Cataract and tell that this amount of water was being diverted or not.

In measurement there is some slight effect, but to the eye there would positively be none.

The effect upon the American Falls by the diversion of 4,400 cubic feet of water would be to reduce its flow less than one-tenth of 1 inch; the effect upon the Canadian Falls would be to reduce them less than $1\frac{1}{2}$ inches.

I have looked upon the Falls under so many different conditions that I have no hesitancy in saying this diversion would not be appreciable to the eye in the least extent.

If legislation was proposed here which was seeking a diversion of the water of the Niagara River to the extent that it would impair the scenic beauty of the Falls, the people I represent would be the first to raise their voices in opposition; but we who know the situation as no other people in the world know it, would and do testify from our daily observations that the diversion so far made has not impaired in the least degree the scenic effect of the Falls; and, on the other hand, I trust you will most seriously consider the benefits which have been derived from the use of the small amount of water which has been and is being diverted.

Under the existing law the Secretary of War has issued permits for the diversion of 15,600 cubic feet of water, of which 500 cubic feet are for the purposes of the Erie Canal, and 15,100 cubic feet for the two existing power companies at Niagara Falls.

Mr. DIFENDERFER. They are corporations?

Mr. SIMMONS. Yes.

The CHAIRMAN. Those are the only companies on our side that are using the water?

Mr. SIMMONS. Yes, sir. I want you gentlemen to get into your minds the great benefit that has come from the use of something that has not hurt anybody. From the use of this 15,100 cubic feet of water for the Niagara Falls companies there has been a daily development of 204,800 horsepower.

To produce this result from coal would require annually the consumption of 3,686,400 tons of coal.

The accomplishment of this prodigious result for the benefit of the industrial side of the proposition has resulted in diminishing the flow of water over the American Falls but three-eighths of 1 inch, and has diminished the flow of the water over the Canadian Falls

4.8 inches—results that have been apparent only to the instruments of the engineers and in no way apparent to the eye.

Now, with these facts before us, both as to the effects and the benefits, the question is, can we permit the further diversion of 4,400 cubic feet of water?

A MEMBER. How much is being utilized of this 15,600 feet?

The CHAIRMAN. All of it.

Mr. SIMMONS. Practically all of it. We have before us, to guide us to a proper conclusion, the actual results which have been obtained from the tests which have been made.

These tests were made and results obtained by a closing down of the operations of the power companies and restoring to the river its full natural flow, and thus ascertaining accurately the diminution of the flow by measurement, which measurement revealed (as I have stated) that the engineers' instruments disclosed the fact that the diversion of 15,100 cubic feet of water had the effect of reducing the flow over the American Falls three-eighths of 1 inch, and over the Canadian Falls 4.8 inches.

Therefore, upon this hypothesis, if we should permit the diversion of the additional 4,400 cubic feet of water permitted under the treaty, it would affect the flow of water over the American Falls less than one-tenth of 1 inch, and over the Canadian Falls less than $1\frac{1}{2}$ inches.

Now, while this diversion shows this small result under the engineers' instruments, I emphatically contend that the most accurate eye could not determine the fact as to whether one-tenth of 1 inch on the American side, or a little over 1 inch on the Canadian side was either increasing or diminishing the flow over the Falls.

This is the proposition, pure and simple, that you have before you in determining whether the diversion of the additional 4,400 cubic feet of water will or will not seriously affect the scenic beauty of the Niagara Falls.

Now, gentlemen, if this additional 4,400 cubic feet of water can be diverted as permitted by the treaty, the benefits to the American people will result in the development of about 80,000 horsepower, thereby conserving in nature's storehouse coal to the amount of 1,440,000 tons yearly.

If you will permit me to digress a little from the statement affecting solely the power development on the American side, I would like to present to you figures showing the benefits to the people of the United States and Canada if the 56,000 cubic feet of water per second permitted by the treaty is used in the power development on both sides of the Niagara River; and I contend that the whole of the 56,000 feet can be used without the human eye ever being able to detect that the scenic beauty of Niagara Falls has been diminished in the least.

Mr. FLOOD. In your bill, who gets the benefit of this 4,400 feet?

Mr. SIMMONS. My bill does not attempt to give it to anybody.

Mr. FLOOD. You leave it with the Secretary of War?

Mr. SIMMONS. Yes; to increase the diversion from 15,600 to 20,000.

The CHAIRMAN. That is the amount we are entitled to under the treaty.

Mr. SIMMONS. That is the amount we are entitled to under the treaty.

Mr. LEVY. That is given by the State of New York?

Mr. SIMMONS. Not necessarily.

Mr. FLOOD. No; the Federal Government controls that.

Mr. LEVY. Do you mean that that 4,400 cubic feet additional shall be given without the consent of the commissioners of the State of New York?

Mr. SIMMONS. Yes; we want the commissioners of the State of New York to consent to that.

If the 56,000 cubic feet per second were used it would produce, daily, 790,200 horsepower.

To produce this same horsepower from coal would require the annual consumption of 14,241,600 tons of coal.

I therefore assert, without fear of successful contradiction, that the Niagara power proposition is the most valuable conservation on the American continent—

Mr. DIFENDERFER. Then is it not too great to give to any individual corporation?

Mr. SIMMONS. Now, that is entirely with the committee. I am not commenting on that just now.

Mr. DIFENDERFER. That, to me, has a greater point than the scenic beauty.

Mr. SIMMONS (continuing). And while I have before given merely the figures showing the saving resulting from this heretofore wasted water force for a single year, I want to impress upon you what this saving would amount to in a period of 50 years.

In that period it would result in the enormous saving of 712,080,000 tons of coal.

All of this can be accomplished without injury to the scenic beauty and without touching any of our exhaustible resources. It can be done by simply utilizing nature's energy, which has not heretofore been contributing in any appreciable extent to the benefit of the American people.

I wish to bring to your attention these points: First, will you recommend the diversion of the additional 4,400 cubic feet of water permitted under the treaty, which I contend, from the statements I have made, can be diverted without the least harmful effect upon the esthetic side of the situation and the use of which water will be of such enormous benefit to our people?

Second, will you not permit the raising of the limit of importation of power generated in Canada as fixed under existing law?

There is not, in my judgment, any doubt but that the maximum amount of water permitted under the treaty will be used by Canada; and as to this view I have never heard a dissenting expression of opinion from any one who has made a study of the subject.

It is therefore merely a question as to whether we are going to erect barriers against our progress and prohibit the importation of the power generated from such water to the United States to stimulate industrial activity in the electrical transmission zone—which means a distance of probably 300 miles from Niagara Falls.

Third, existing laws prohibit all diversion of water from the Niagara River except the 15,600 cubic feet above referred to, permits for which diversion have been granted by the Secretary of War.

We have a fall in the Niagara River of 82 feet between the head of the Whirlpool Rapids and what is known as the Devil's Hole, a distance of about $1\frac{1}{2}$ miles.

This section of the river is several miles below the Falls of the Niagara, and power development there would have nothing whatever to do with the scenic beauty of the Falls, and yet existing law prohibits the diversion of water from this section of the Niagara River, although the law, when enacted, was intended solely for the preservation of the scenic beauties of the Niagara Falls.

I am confident that it was the intention of those who voted for the act which passed Congress and became a law on June 29, 1906, which act was entitled "An act for the preservation of Niagara Falls, etc.," that said act should control the waters of the Niagara River above the Falls only. Nevertheless the existing law prohibits the further diversion of water either above or below the Falls, and therefore, by an inadvertence in the language of the existing law, it is an estopper to the carrying out of power development from the Niagara River below the Falls, which has no connection with, or bearing upon, the object of the legislation sought to be attained by the said act of June 29, 1906.

Mr. FLOOD. You make no limitation on Canada in your bill?

Mr. SIMMONS. No; Canada was the one, if anyone should have desired to prohibit its coming over. They were the ones to have done it, and in making the treaty they were perfectly willing that the power should be brought over, and it would seem to me that it would be perfectly absurd for us to continue a law denying the right for us to use it.

Mr. FLOOD. Have you considered the question as to whether there should be a charge on what is being used?

Mr. SIMMONS. As far as New York is concerned, we have a public-service commission. If it went into another State, it would be under another arrangement.

Mr. FLOOD. Do you think this company should be permitted to charge more on this side than in Canada?

Mr. SIMMONS. I think not, but the Canadian Government transmits the power to the people without any profit, or at actual cost to the Government. Now, if the United States Government is going to transmit this power, why, I would say that we would probably get it under like conditions, but I don't think a private corporation could deliver it at the same price as in Canada.

Mr. FLOOD. Don't you think there ought to be some limit, so that the cost would not exceed the price of transmission?

Mr. SIMMONS. We have a commission which regulates all these things.

Mr. FLOOD. Is there such a commission in Michigan?

Mr. SIMMONS. I do not know; but in so far as the State of New York is concerned we have ample protection.

Mr. KENDALL. Does your State commission have jurisdiction over commodities transmitted into the State by other commissions?

Mr. SIMMONS. I think so. I am not a lawyer, but we are going to have some one who can answer.

Mr. KENDALL. This is a commodity transmitted into this State—

The CHAIRMAN. The New York public-service commission has the right under the statutes of New York to regulate the price of power.

Mr. KENDALL. But suppose the purchase is made by the consumer in Buffalo from the Canadian authorities, and the delivery is made in pursuance of that purpose?

The CHAIRMAN. That would be a contract, and the State could not interfere with that.

Mr. LEVY. That does not cover the point. The private concern you are speaking of—

Mr. KENDALL. I am speaking of a consumer in Buffalo who purchases in Canada. Would the public-service commission in New York have jurisdiction to control the rates?

Mr. SIMMONS. To be paid by the private consumer?

Mr. KENDALL. Yes.

Mr. SIMMONS. Absolutely.

Mr. DIFENDERFER. Without a tariff? [Laughter.]

Mr. SIMMONS. The tariff would not have anything to do with it. The commissioners have only to do with what the company shall charge the consumer. If they think it is too high, they have full authority to make the price whatever they please, and there is no redress from the public-service commission.

Mr. LEVY. What is the present law in relation to transmission? That is, do you have to have a permit from the Secretary of War in order to bring it here?

Mr. SIMMONS. The existing law provides that we can bring in 160,000 horsepower, and that states the amount that each company shall bring in.

Mr. KENDALL. I did not mean to interrupt your statement. I think you had better go on.

Mr. SIMMONS. I think I could give you my statement better if I was not drawn out on different phases of the case. There are a great many to be heard and they want to get away. I shall be very glad to come before the committee at any time you wish. Now, the importation of power from Canada I think I covered.

The bill I have introduced in the House and which is under consideration by your committee, viz, H. R. 7694, has for its purpose nothing other than to perfect the treaty with Great Britain.

It would permit the Secretary of War to issue permits, in addition to the 15,600 cubic feet already issued, up to 20,000 cubic feet—the maximum under the treaty—which means the additional 4,400 cubic feet I have before referred to.

It changes existing laws in regard to the importation of power from Canada.

Under the existing law we are permitted to bring in only 160,000 horsepower from Canada.

Under my bill no limitation is placed upon the importation of power from Canada.

We merely take the position that if power is generated in Canada from the waters of the Niagara River (within the limitation of diversions we have agreed to under the treaty) we would welcome the importation of such amount as we could not.

We believe that such a policy is in keeping with American enterprise and American thrift.

The CHAIRMAN. Quite true, and any limitation is conducive to monopoly, is it not?

Mr. SIMMONS. Yes; within the treaty. I do not think there should be any limitation whatever. That was only put in the law temporarily until we could negotiate with Great Britain, and we have had that negotiation.

Mr. FLOOD. We bring over 160,000 horsepower. Who brings that over now?

Mr. SIMMONS. The Niagara Falls Power Co. and Niagara, Lockport & Ontario Co.

My bill would also raise the limitation as to the diversion of water from the Niagara River below the Falls and make it possible for Congress hereafter to grant permits that this great natural energy should be utilized if in the wisdom of Congress it seems desirable to have it done.

There is certainly nothing in connection with the entire proposition under consideration which is a greater injustice than to have a law upon our statute books designed solely for the purpose of preserving Niagara Falls and yet controlling waters which have no connection whatever with the Falls of the Niagara.

A MEMBER. Does the public-service commission fix the price of the power that the corporations take? Do they fix the price? That is, do the power companies pay anything? Or is there any revenue coming to the State of New York or the General Government?

Mr. SIMMONS. No; there is none.

[H. R. 7694, Sixty-second Congress, First Session.]

A BILL To give effect to the fifth article of the treaty between the United States and Great Britain signed January 11, 1909.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That no water shall be diverted from the Niagara River above the Falls of Niagara within the State of New York for power purposes without the written consent of the Secretary of War, who is hereby authorized to give such consent by revocable permits, to persons, companies, or corporations having authority from the said State to make such diversions, and to a total amount not exceeding in the aggregate the amount allowed by the treaty between the United States and Great Britain signed at Washington on the 11th day of January, in the year 1909: Provided, That no such permit shall be granted allowing diversions of water exceeding in the aggregate 15,000 cubic feet per second without the consent of the State of New York and of the commissioners on the part of the United States in the international joint commission provided for by said treaty.

Every diversion of water in violation of the foregoing provisions shall be a misdemeanor, punishable by a fine not exceeding \$2,500 or by imprisonment not exceeding one year, or both, in the discretion of the court.

The Secretary of War shall make regulations for preventing the diversion of water from the Niagara River above the Falls of Niagara in excess of the amounts consented to by him pursuant to the said treaty and to this act, and all permits for the diversion of water granted under the act entitled "An act for the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes," approved June 29, 1906, shall continue in force until revoked by the Secretary of War or superseded by other permits issued by him.

The CHAIRMAN. The committee will now hear from Representative Charles B. Smith, who has a bill before the committee—No. 6746.

The Smith bill reads as follows:

[H. R. 6746, Sixty-second Congress, first session.]

A BILL To give effect to the fifth article of the treaty between the United States and Canada, signed January 11, 1909.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That no water shall be diverted from Niagara River above the Falls of Niagara, within the State of New York, for power purposes without the written consent of the Secretary of War, who is hereby authorized to consent, by revocable permits, to the making of such diversions to a total amount not exceeding in the aggregate the amount allowed

by the treaty between the the United States and Great Britain of January 11, 1909: *Provided*, That all permits for the diversion of water granted under the act entitled "An act for the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes, approved June 29, 1906," shall continue in force and effect to the recipients thereof and their respective successors until revoked by the Secretary of War or superseded by other permits issued by him: *Provided further*, That any permit for such diversion of water in excess of a daily diversion at the rate of 15,000 cubic feet of water per second shall only be made to the State of New York, with full power and authority to said State to make such grant or grants of the use thereof as it may determine to be for the public interest: *Provided-further*, That no one individual, company, or corporation shall be permitted to divert under any permit or permits granted under the authority of said act of June 29, 1906, water exceeding in the aggregate a daily diversion at the rate of 8,000 cubic feet per second.

SEC. 2. That no person, company, or corporation shall transmit from the Dominion of Canada into the United States electrical power developed from the use of the waters of the Niagara River in excess of the amount so transmitted by such person, company, or corporation on or before May 13, 1910, the date of proclamation of said treaty, without the written consent of the Secretary of War, who is hereby authorized to give consent for such transmission of additional electrical power by revocable permit, to contain an express condition that the person, company, or corporation receiving or operating under such permit shall not directly or indirectly, through any subsidiary company or otherwise, charge or receive for any such additional electrical power so transmitted within the United States a higher price than is charged or received by such person, company, or corporation, or any allied or subsidiary company, under like or substantially similar circumstances, within the Dominion of Canada for electrical power developed from said waters, and that such condition in respect of price shall be by the terms of such permit made specifically enforceable in and by any State within which such electrical power so developed within the Dominion of Canada shall be transmitted.

SEC. 3. That any person, company, or corporation diverting water from the said Niagara River or its tributaries, or transmitting electrical power into the United States from Canada, except as herein stated, or violating any of the provisions of this act, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding \$2,500 nor less than \$500, or by imprisonment (in the case of a natural person) not exceeding one year, or by both such punishments, in the discretion of the court: *Provided*, That the removal of any structures or parts of structures erected in violation of this act, or any construction incidental to or used for such diversion of water or transmission of power as is herein prohibited, as well as any diversion of water or transmission of power in violation hereof, may be enforced or enjoined at the suit of the United States by any circuit court having jurisdiction in any district in which the same may be located, and proper proceedings to this end may be instituted under the direction of the Attorney General of the United States.

SEC. 4. That the provisions of this act shall remain in force and effect during the life of said treaty.

SEC. 5. That for accomplishing the purposes detailed in this act the sum of \$10,000, or so much thereof as may be necessary, is hereby appropriated from any moneys in the Treasury not otherwise appropriated.

SEC. 6. That the right to alter, amend, or repeal this act is hereby expressly reserved.

MR. SHARP. Mr. Smith, has the amount of the diversion been fixed by a treaty?

MR. SMITH. Yes, sir; it is 20,000 feet on the American side and 36,000 feet on the Canadian side.

MR. SHARP. Now, has there been some legislation by this Government?

MR. SMITH. That legislation was prior to the establishment of the treaty. I want to say, Mr. Chairman, that I do not desire to go into the merits of the legislation now. My main purpose in addressing the committee was to place in the record the Burton Act and also the treaty with Great Britain.

The CHAIRMAN. There being no objection, the reporter will incorporate in the record the treaty between the United States and Great Britain and the Burton Act and the resolution extending the same, the joint resolution of the House, No. 262, approved March 3, 1909.

THE BURTON LAW.

[Public, No. 367.]

An Act For the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the diversion of water from Niagara River or its tributaries, in the State of New York, is hereby prohibited, except with the consent of the Secretary of War as hereinafter authorized in section two of this act: *Provided*, That this prohibition shall not be interpreted as forbidding the diversion of the waters of the Great Lakes or of Niagara River for sanitary or domestic purposes, or for navigation, the amount of which may be fixed from time to time by the Congress of the United States, or by the Secretary of War of the United States under its direction.

SEC. 2. That the Secretary of War hereby authorized to grant permits for the diversion of water in the United States from said Niagara River or its tributaries for the creation of power to individuals, companies, or corporations which are now actually producing power from the waters of said river, or its tributaries, in the State of New York, or from the Erie Canal; also permits for the transmission of power from the Dominion of Canada into the United States, to companies legally authorized therefor, both for diversion and transmission, as hereinafter stated, but permits for diversion shall be issued only to the individuals, companies, or corporations as aforesaid, and only to the amount now actually in use or contracted to be used in factories the buildings for which are now in process of construction, not exceeding to any one individual, company, or corporation as aforesaid a maximum amount of eight thousand six hundred cubic feet per second, and not exceeding to all individuals, companies, or corporations as aforesaid an aggregate amount of fifteen thousand six hundred cubic feet per second; but no revocable permits shall be issued by the said Secretary under the provisions hereafter set forth for the diversion of additional amounts of water from the said river or its tributaries until the approximate amount for which permits may be issued as above, to wit, fifteen thousand six hundred cubic feet per second, shall for a period of not less than six months have been diverted from the waters of said river or its tributaries, in the State of New York: *Provided*, That the said Secretary, subject to the provisions of section five of this act, under the limitations relating to time above set forth, is hereby authorized to grant revocable permits, from time to time, to such individuals, companies, or corporations, or their assigns, for the diversion of additional amounts of water from the said river or its tributaries to such amount, of any, as, in connection with the amount diverted on the Canadian side, shall not injure or interfere with the navigable capacity of said river, or its integrity and proper volume as a boundary stream, or the scenic grandeur of Niagara Falls; and that the quantity of electrical power which may by permits be allowed to be transmitted from the Dominion of Canada into the United States shall be one hundred and sixty thousand horsepower: *Provided further*, That the Secretary, subject to the provisions of section five of this act, may issue revocable permits for the transmission of additional electrical power so generated in Canada, but in no event shall the amount included in such permits, together with the said one hundred and sixty thousand horsepower and the amount generated and used in Canada, exceed three hundred and fifty thousand horsepower: *Provided always*, That the provisions herein permitting diversions and fixing the aggregate horsepower herein permitted to be transmitted into the United States, as aforesaid, are intended as a limitation on the authority of the Secretary of War, and shall in no wise be construed as a direction to said Secretary to issue permits, and the Secretary of War shall make regulations preventing or limiting the diversion of water and the admission of electrical power as herein stated; and the permits for the transmission of electrical power issued by the Secretary of War may specify the persons, companies, or corporations by whom the same shall be transmitted, and the persons, companies, or corporations to whom the same shall be delivered.

SEC. 3. That any person, company, or corporation diverting water from the said Niagara River or its tributaries, or transmitting electrical power into the

United States from Canada, except as herein stated, or violating any of the provisions of this act, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding two thousand five hundred dollars nor less than five hundred dollars, or by imprisonment (in the case of a natural person) not exceeding one year, or by both such punishments, in the discretion of the court. And, further, the removal of any structures or parts of structures erected in violation of this act, or any construction incidental to or used for such diversion of water or transmission of power as is herein prohibited, as well as any diversion of water or transmission of power in violation hereof, may be enforced or enjoined at the suit of the United States by any circuit court having jurisdiction in any district in which the same may be located, and proper proceedings to this end may be instituted under the direction of the Attorney General of the United States.

SEC. 4. That the President of the United States is respectfully requested to open negotiations with the Government of Great Britain for the purpose of effectually providing by suitable treaty with said Government, for such regulation and control of the waters of Niagara River and its tributaries as will preserve the scenic grandeur of Niagara Falls and of the rapids in said river.

SEC. 5. That the provisions of this act shall remain in force for three years from and after date of its passage, at the expiration of which time all permits granted hereunder by the Secretary of War shall terminate unless sooner revoked, and the Secretary of War is hereby authorized to revoke any or all permits granted by him by authority of this act, and nothing herein contained shall be held to confirm, establish, or confer any rights heretofore claimed or exercised in the diversion of water or the transmission of power.

SEC. 6. That for accomplishing the purposes detailed in this act the sum of fifty thousand dollars, or so much thereof as may be necessary, is hereby appropriated from any moneys in the Treasury not otherwise appropriated.

SEC. 7. That the right to alter, amend, or repeal this act is hereby expressly reserved.

Approved, June 29, 1906.

House joint resolution 262, extending the operation of an act for the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes.

Whereas the provisions of the act entitled "An act for the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes," approved June twenty-ninth, nineteen hundred and six, will expire by limitation on June twenty-ninth, nineteen hundred and nine; and

Whereas a date for the termination of the operation of said act was provided therein, but with a view to the more permanent settlement of the questions involved by a treaty with Great Britain, and by further legislation appropriate to the situation, and such treaty not having been negotiated, it is desirable that the provisions of said act should be continued until such permanent settlement can be made: Therefore, be it

Resolved, etc., That the provisions of the aforesaid act be, and they are hereby, extended for two years from June twenty-ninth, nineteen hundred and nine, being the date of the expiration of the operation of said act, save in so far as any portion thereof may be found inapplicable or already complied with.

Approved, March 3, 1909.

TREATY SERIES, NO. 548—TREATY BETWEEN THE UNITED STATES AND GREAT BRITAIN—
BOUNDARY WATERS BETWEEN THE UNITED STATES AND CANADA.

Signed at Washington January 11, 1909.

Ratification advised by the Senate March 3, 1909.

Ratified by the President April 1, 1910.

Ratified by Great Britain March 31, 1910.

Ratifications exchanged at Washington May 5, 1910.

Proclaimed May 13, 1910.

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA.

A PROCLAMATION.

Whereas a treaty between the United States of America and His Majesty the King of the United Kingdom of Great Britain and Ireland and of the British

dominions beyond the seas, Emperor of India, to prevent disputes regarding the use of boundary waters and to settle all questions which are now pending between the United States and the Dominion of Canada involving the rights, obligations, or interests of either in relation to the other or to the inhabitants of the other along their common frontier, and to make provision for the adjustment and settlement of all such questions as may hereafter arise, was concluded and signed by their respective plenipotentiaries at Washington on the eleventh day of January, one thousand nine hundred and nine, the original of which treaty is, word for word, as follows:

The United States of America and His Majesty the King of the United Kingdom of Great Britain and Ireland and of the British dominions beyond the seas, Emperor of India, being equally desirous to prevent disputes regarding the use of boundary waters and to settle all questions which are now pending between the United States and the Dominion of Canada involving the rights, obligations, or interests of either in relation to the other or to the inhabitants of the other along their common frontier, and to make provision for the adjustment and settlement of all such questions as may hereafter arise, have resolved to conclude a treaty in furtherance of these ends, and for that purpose have appointed as their respective plenipotentiaries:

The President of the United States of America, Elihu Root, Secretary of State of the United States; and

His Britannic Majesty, the Right Honorable James Bryce, O. M., his ambassador extraordinary and plenipotentiary at Washington.

Who, after having communicated to one another their full powers, found in good and due form, have agreed upon the following articles:

PRELIMINARY ARTICLE.

For the purposes of this treaty boundary waters are defined as the waters from main shore to main shore of the lakes and rivers and connecting waterways or the portions thereof, along which the international boundary between the United States and the Dominion of Canada passes, including all bays, arms, and inlets thereof, but not including tributary waters which in their natural channels would flow into such lakes, rivers, and waterways, or waters flowing from such lakes, rivers, and waterways, or the waters of rivers flowing across the boundary.

ARTICLE I.

The high contracting parties agree that the navigation of all navigable boundary waters shall forever continue free and open for the purposes of commerce to the inhabitants and to the ships, vessels, and boats of both countries equally, subject, however, to any laws and regulations of either country, within its own territory, not inconsistent with such privilege of free navigation and applying equally and without discrimination to the inhabitants, ships, vessels, and boats of both countries.

It is further agreed that so long as this treaty shall remain in force this same right of navigation shall extend to the waters of Lake Michigan and to all canals connecting boundary waters and now existing or which may hereafter be constructed on either side of the line. Either of the high contracting parties may adopt rules and regulations governing the use of such canals within its own territory and may charge tolls for the use thereof, but all such rules and regulations and all tolls charged shall apply alike to the subjects of citizens of the high contracting parties and the ships, vessels, and boats of both of the high contracting parties, and they shall be placed on terms of equality in the use thereof.

ARTICLE II.

Each of the high contracting parties reserves to itself or to the several State governments on the one side and the Dominion or Provincial Governments on the other, as the case may be, subject to any treaty provisions now existing with respect thereto, the exclusive jurisdiction and control over the use and diversion, whether temporary or permanent, of all waters on its own side of the line which in their natural channels would flow across the boundary or into boundary waters; but it is agreed that any interference with or diversion from their natural channel of such waters on either side of the boundary, resulting in any injury on the other side of the boundary, shall give rise to the same rights and entitle the injured parties to the same legal remedies as if such injury took place in the country where such diversion or interference

occurs; but this provision shall not apply to cases already existing or to cases expressly covered by special agreement between the parties hereto.

It is understood, however, that neither of the high contracting parties intends by the foregoing provision to surrender any right which it may have to object to any interference with or diversions of waters on the other side of the boundary the effect of which would be productive of material injury to the navigation interests on its own side of the boundary.

ARTICLE III.

It is agreed that, in addition to the uses, obstructions, and diversions heretofore permitted or hereafter provided for by special agreement between the parties hereto, no further or other uses or obstructions or diversions, whether temporary or permanent, of boundary waters on either side of the line, affecting the natural level or flow of boundary waters on the other side of the line, shall be made except by authority of the United States or the Dominion of Canada within their respective jurisdictions and with the approval, as hereinafter provided, of a joint commission, to be known as the International Joint Commission.

The foregoing provisions are not intended to limit or interfere with the existing rights of the Government of the United States on the one side and the Government of the Dominion of Canada on the other, to undertake and carry on governmental works in boundary waters for the deepening of channels, the construction of breakwaters, the improvement of harbors, and other governmental works for the benefit of commerce and navigation, provided that such works are wholly on its own side of the line and do not materially affect the level or flow of the boundary waters on the other, nor are such provisions intended to interfere with the ordinary use of such waters for domestic and sanitary purposes.

ARTICLE IV.

The high contracting parties agree that, except in cases provided for by special agreement between them, they will not permit the construction or maintenance on their respective sides of the boundary of any remedial or protective works or any dams or other obstructions in waters flowing from boundary waters or in waters at a lower level than the boundary in rivers flowing across the boundary, the effect of which is to raise the natural level of waters on the other side of the boundary unless the construction or maintenance thereof is approved by the aforesaid International Joint Commission.

It is further agreed that the waters herein defined as boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other.

ARTICLE V.

The high contracting parties agree that it is expedient to limit the diversion of waters from the Niagara River so that the level of Lake Erie and the flow of the stream shall not be appreciably affected. It is the desire of both parties to accomplish this object with the least possible injury to investments which have already been made in the construction of power plants on the United States side of the river under grants of authority from the State of New York, and on the Canadian side of the river under licenses authorized by the Dominion of Canada and the Province of Ontario.

So long as this treaty shall remain in force no diversion of the waters of the Niagara River above the Falls from the natural course and stream thereof shall be permitted except for the purposes and to the extent hereinafter provided.

The United States may authorize and permit the diversion within the State of New York of the waters of said river above the Falls of Niagara, for power purposes, not exceeding in the aggregate a daily diversion at the rate of twenty thousand cubic feet of water per second.

The United Kingdom, by the Dominion of Canada, or the Province of Ontario, may authorize and permit the diversion within the Province of Ontario of the waters of said river above the Falls of Niagara, for power purposes, not exceeding in the aggregate a daily diversion at the rate of thirty-six thousand cubic feet of water per second.

The prohibitions of this article shall not apply to the diversion of water for sanitary or domestic purposes, or for the service of canals for the purposes of navigation.

ARTICLE VI.

The high contracting parties agree that the Saint Mary and Milk Rivers and their tributaries (in the State of Montana and the Provinces of Alberta and Saskatchewan) are to be treated as one stream for the purposes of irrigation and power, and the waters thereof shall be apportioned equally between the two countries, but in making such equal apportionment, more than half may be taken from one river and less than half from the other by either country so as to afford a more beneficial use to each. It is further agreed that in the division of such waters during the irrigation season, between the first of April and thirty-first of October, inclusive, annually, the United States is entitled to a prior appropriation of five hundred cubic feet per second of the waters of the Milk River, or so much of such amount as constitutes three-fourths of its natural flow, and that Canada is entitled to a prior appropriation of five hundred cubic feet per second of the flow of Saint Mary River, or so much of such amount as constitutes three-fourths of its natural flow.

The channel of the Milk River in Canada may be used at the convenience of the United States for the conveyance, while passing through Canadian territory, of waters diverted from the Saint Mary River. The provisions of Article II of this treaty shall apply to any injury resulting to property in Canada from the conveyance of such waters through the Milk River.

The measurement and apportionment of the water to be used by each country shall from time to time be made jointly by the properly constituted reclamation officers of the United States and the properly constituted irrigation officers of His Majesty under the direction of the International Joint Commission.

ARTICLE VII.

The high contracting parties agree to establish and maintain an International Joint Commission of the United States and Canada composed of six commissioners, three on the part of the United States appointed by the President thereof, and three on the part of the United Kingdom appointed by His Majesty on the recommendation of the Governor in Council of the Dominion of Canada.

ARTICLE VIII.

This International Joint Commission shall have jurisdiction over and shall pass upon all cases involving the use or obstruction or diversion of the waters with respect to which, under Articles III and IV of this treaty, the approval of this commission is required, and in passing upon such cases the commission shall be governed by the following rules or principles which are adopted by the high contracting parties for this purpose:

The high contracting parties shall have, each on its own side of the boundary, equal and similar rights in the use of the waters hereinbefore defined as boundary waters.

The following order of precedence shall be observed among the various uses enumerated hereinafter for these waters, and no use shall be permitted which tends materially to conflict with or restrain any other use which is given preference over it in this order of precedence:

First. Uses for domestic and sanitary purposes.

Second. Uses for navigation, including the service of canals for the purposes of navigation.

Third. Uses for power and for irrigation purposes.

The foregoing provisions shall not apply to or disturb any existing uses of boundary waters on either side of the boundary.

The requirement for an equal division may, in the discretion of the commission, be suspended in cases of temporary diversions along boundary waters at points where such equal division can not be made advantageously on account of local conditions and where such diversion does not diminish elsewhere the amount available for use on the other side.

The commission in its discretion may make its approval in any case conditional upon the construction of remedial or protective works to compensate so far as possible for the particular use or diversion proposed, and in such cases may require that suitable and adequate provision, approved by the commission,

be made for the protection and indemnity against injury of any interests on either side of the boundary.

In cases involving the elevation of the natural level of waters on either side of the line as a result of the construction or maintenance on the other side of remedial or protective works or dams or other obstructions in boundary waters or in waters flowing therefrom or in waters below the boundary in rivers flowing across the boundary, the commission shall require, as a condition of its approval thereof, that suitable and adequate provision, approved by it, be made for the protection and indemnity of all interests on the other side of the line which may be injured thereby.

The majority of the commissioners shall have power to render a decision. In case the commission is evenly divided upon any question or matter presented to it for decision, separate reports shall be made by the commissioners on each side to their own Government. The high contracting parties shall thereupon endeavor to agree upon an adjustment of the question or matter of difference, and if an agreement is reached between them it shall be reduced to writing in the form of a protocol, and shall be communicated to the commissioners, who shall take such further proceedings as may be necessary to carry out such agreement.

ARTICLE IX.

The high contracting parties further agree that any other questions or matters of difference arising between them involving the rights, obligations, or interests of either in relation to the other or to the inhabitants of the other, along the common frontier between the United States and the Dominion of Canada, shall be referred from time to time to the international joint commission for examination and report, whenever either the Government of the United States or the Government of the Dominion of Canada shall request that such questions or matters of difference be so referred.

The international joint commission is authorized in each case so referred to examine into and report upon the facts and circumstances of the particular questions and matters referred, together with such conclusions and recommendations as may be appropriate, subject, however, to any restrictions or exceptions which may be imposed with respect thereto by the terms of the reference.

Such reports of the commissions shall not be regarded as decisions of the questions or matters so submitted either on the facts or the law, and shall in no way have the character of an arbitral award.

The commission shall make a joint report to both Governments in all cases in which all or a majority of the commissioners agree, and in case of disagreement the minority may make a joint report to both Governments or separate reports to their respective Governments.

In case the commission is evenly divided upon any question or matter referred to it for report, separate reports shall be made by the commissioners on each side to their own Government.

ARTICLE X.

Any questions or matters of difference arising between the high contracting parties involving the rights, obligations, or interests of the United States or of the Dominion of Canada either in relation to each other or to their respective inhabitants, may be referred for decision to the international joint commission by the consent of the two parties, it being understood that on the part of the United States any such action will be by and with the advice and consent of the Senate, and on the part of His Majesty's Government with the consent of the Governor General in Council. In each case so referred the said commission is authorized to examine into and report upon the facts and circumstances of the particular questions and matters referred, together with such conclusions and recommendations as may be appropriate, subject, however, to any restrictions or exceptions which may be imposed with respect thereto by the terms of the reference.

A majority of the said commission shall have power to render a decision or finding upon any of the questions or matters so referred.

If the said commission is equally divided or otherwise unable to render a decision or finding as to any questions or matters so referred, it shall be the duty of the commissioners to make a joint report to both Governments, or separate reports to their respective Governments, showing the different conclusions arrived at with regard to the matters or questions so referred, which questions or matters shall thereupon be referred for decision by the high con-

tracting parties to an umpire chosen in accordance with the procedure prescribed in the fourth, fifth, and sixth paragraphs of Article XLV of The Hague Convention for the pacific settlement of international disputes, dated October eighteenth, nineteen hundred and seven. Such umpire shall have power to render a final decision with respect to those matters and questions so referred on which the commission failed.

ARTICLE XI.

A duplicate original of all decisions rendered and joint reports made by the commission shall be transmitted to and filed with the Secretary of State of the United States and the Governor General of the Dominion of Canada, and to them shall be addressed all communications of the commissions.

ARTICLE XII.

The international joint commission shall meet and organize at Washington promptly after the members thereof are appointed, and when organized the commission may fix such times and places for its meetings as may be necessary, subject at all times to special call or direction by the two Governments. Each commissioner, upon the first joint meeting of the commission after his appointment, shall, before proceeding with the work of the commission, make and subscribe a solemn declaration in writing that he will faithfully and impartially perform the duties imposed upon him under this treaty, and such declaration shall be entered on the records of the proceedings of the commission.

The United States and Canadian sections of the commission may each appoint a secretary, and these shall act as joint secretaries of the commission at its joint sessions, and the commission may employ engineers and clerical assistants from time to time as it may deem advisable. The salaries and personal expenses of the commission and of the secretaries shall be paid by their respective Governments, and all reasonable and necessary joint expenses of the commission incurred by it shall be paid in equal moieties by the high contracting parties.

The commission shall have power to administer oaths to witnesses, and to take evidence on oath whenever deemed necessary in any proceeding, or inquiry, or matter within its jurisdiction under this treaty, and all parties interested therein shall be given convenient opportunity to be heard, and the high contracting parties agree to adopt such legislation as may be appropriate and necessary to give the commission the powers above mentioned on each side of the boundary, and to provide for the issue of subpoenas and for compelling the attendance of witnesses in proceedings before the commission. The commission may adopt such rules of procedure as shall be in accordance with justice and equity and may make such examination in person and through agents or employees as may be deemed advisable.

ARTICLE XIII.

In all cases where special agreements between the high contracting parties hereto are referred to in the foregoing articles, such agreements are understood and intended to include not only direct agreements between the high contracting parties, but also any mutual arrangement between the United States and the Dominion of Canada expressed by concurrent or reciprocal legislation on the part of Congress and the Parliament of the Dominion.

ARTICLE XIV.

The present treaty shall be ratified by the President of the United States of America, by and with the advice and consent of the Senate thereof, and by His Britannic Majesty. The ratifications shall be exchanged at Washington as soon as possible and the treaty shall take effect on the date of the exchange of its ratifications. It shall remain in force for five years, dating from the day of exchange of ratifications, and thereafter until terminated by twelve month's written notice given by either high contracting party to the other.

In faith whereof the respective plenipotentiaries have signed this treaty in duplicate and have hereunto affixed their seals.

Done at Washington the eleventh day of January, in the year of our Lord nineteen hundred and nine.

(Signed)	ELIHU ROOT.	[SEAL.]
(Signed)	JAMES BRYCE.	[SEAL.]

And whereas the Senate of the United States by their resolution of March third, nineteen hundred and nine (two-thirds of the Senators present concurring therein), did advise and consent to the ratification of the said treaty with the following understanding to wit:

Resolved further (as a part of this ratification), That the United States approves this treaty with the understanding that nothing in this treaty shall be construed as affecting or changing any existing territorial or riparian rights in the water, or rights of the owners of lands under water, on either side of the international boundary at the rapids of the Saint Marys River at Sault Sainte Marie, in the use of the waters flowing over such lands, subject to the requirements of navigation in boundary waters, and of navigation canals, and without prejudice to the existing right of the United States and Canada, each to use the waters of the Saint Marys River within its own territory; and further, that nothing in this treaty shall be construed to interfere with the drainage of wet, swamp, and overflowed lands into streams flowing into boundary waters, and that this interpretation will be mentioned in the ratification of this treaty as conveying the true meaning of the treaty, and will, in effect, form part of the treaty.

And whereas the said understanding has been accepted by the Government of Great Britain, and the ratifications of the two Governments of the said treaty were exchanged in the city of Washington on the fifth day of May, one thousand nine hundred and ten;

Now, therefore, be it known that I, William Howard Taft, President of the United States of America, have caused the said treaty and the said understanding, as forming a part thereof, to be made public, to the end that the same and every article and clause thereof may be observed and fulfilled with good faith by the United States and the citizens thereof.

In testimony whereof I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the city of Washington this thirteenth day of May, in the year of our Lord nineteen hundred and ten, and of the independence of the United States of America the one hundred and thirty-fourth.

[SEAL.]

WM. H. TAFT.

By the President:

P. C. KNOX,

Secretary of State.

PROTOCOL OF EXCHANGE.

On proceeding to the exchange of the ratifications of the treaty signed at Washington on January eleventh, nineteen hundred and nine, between the United States and Great Britain, relating to boundary waters and questions arising along the boundary between the United States and the Dominion of Canada, the undersigned plenipotentiaries, duly authorized thereto by their respective Governments, hereby declare that nothing in this treaty shall be construed as affecting, or changing, any existing territorial or riparian rights in the water, or rights of the owners of lands under water, on either side of the international boundary at the rapids of the Saint Marys River at Sault Sainte Marie, in the use of the waters flowing over such lands, subject to the requirements of navigation in boundary waters and of navigation canals, and without prejudice to the existing right of the United States and Canada, each to use the waters of the Saint Marys River, within its own territory; and further, that nothing in this treaty shall be construed to interfere with the drainage of wet, swamp, and overflowed lands into streams flowing into boundary waters, and also that this declaration shall be deemed to have equal force and effect as the treaty itself and to form an integral part thereto.

The exchange of ratifications then took place in the usual form.

In witness whereof they have signed the present protocol of exchange and have affixed their seals thereto.

Done at Washington this fifth day of May, nineteen hundred and ten.

PHILANDER C. KNOX. [SEAL.]

JAMES BRYCE. [SEAL.]

The CHAIRMAN. The committee will now hear from Mr. Driscoll, of Buffalo, N. Y.

Mr. DRISCOLL. I shall not take up more than a minute or two of your time. I realize that you mean to give both bills a great deal of your valuable time. In my judgment, both bills are good bills.

I come from the city of Buffalo, and you all know that the city of Buffalo is located about 22 miles from Niagara Falls; and the people there and in the surrounding country have but two objects in view, and that is to get more power and cheaper power, and I think that they should have cheaper power rates. I listened to my colleague and I think he has made a very fair statement.

Mr. KENDALL. Have the people no concern about the preservation of the Falls?

Mr. DRISCOLL. As far as the preservation of the Falls is concerned, the question before your committee is whether or not the diversion of the 4,400 cubic feet of water per second that is allowed under this treaty, and which is not at present being used, will in any way harm the scenic beauty of Niagara Falls. In my judgment, not in the slightest degree.

The CHAIRMAN. The treaty provides for 56,000 cubic feet per second.

Mr. DRISCOLL. We have no jurisdiction over that. All we have jurisdiction over would be the 15,600 cubic feet per second that is now being used and the 4,400 feet additional that is not being used.

Mr. COOPER. How much would it be in the aggregate?

Mr. DRISCOLL. Twenty thousand on the American side. The limitations that have been placed upon the waters of Niagara River should be released. That is, I do not believe that it was the intention of the law to control the waters below Niagara Falls, where I understand there is a drop of some eighty odd feet. If that water should be used for power purposes in the lower Niagara it would be a great benefit to the people, and it would not impair in any way the scenic beauty of Niagara Falls. I do say, gentlemen, that when your committee present the bill it should, in my judgment, be one so perfect that it would not be necessary for Congress to cross a "t" or dot an "i" in its amendment.

The CHAIRMAN. How can we do that? I wish the gentleman would state. It would be gratifying to us.

Mr. DRISCOLL. I am going to leave that to the chairman and the gentlemen of the committee. I know that it is a very difficult proposition. I fully agree with Mr. Simmons that this is one of the greatest questions that will ever come before this committee affecting power regulation. I believe there should be some law in this country regulating the maximum and minimum cost of power. We have been told that there is 160,000 horsepower coming in from Canada. I can not find any reason why we should not have more power if we have the market to develop it.

Mr. FLOOD. But do you think that the price to the consumer should be limited?

Mr. DRISCOLL. Absolutely. I thank you, gentlemen, very kindly. There are several gentlemen here, including representatives of the chamber of commerce of the city of Buffalo. They have been spending a good deal of time here and I hope they will be heard.

Mr. SIMMONS. I would just like to ask one question. Do you think the public-service commission would safeguard that proposition in the city of New York?

Mr. DRISCOLL. That I can not answer, gentlemen; that is quite another proposition.

The CHAIRMAN. The committee will now hear from Representative Doremus, of Michigan.

Mr. DOREMUS. Mr. Chairman and gentlemen of this committee, I think you all understand that perhaps no city is more deeply interested in this question than Detroit. We have pending at the present time a street car settlement that will be voted on by the people next Tuesday. That settlement carries with it the question of embarking in the municipal ownership of street railways. If they decide to operate the street railway system now or at a later period they might be interested in getting this cheaper power. We have in Detroit a municipal lighting plant—

Mr. LEVY. What is the distance from Detroit to Niagara?

Mr. DOREMUS. I do not know, but I would say, offhand, 300 miles.

A MEMBER. Two hundred and twenty-five.

Mr. DOREMUS. The constitution of the State of Michigan gives the city the power to engage in private lighting. There again you will see the interest which the people of Detroit have in this proposition. Our manufacturers would like to get cheaper power and the citizens of Detroit would naturally like to get cheaper lighting. Under the Burton Act, as I understand it, it is absolutely impossible for them to get this power from Niagara Falls. A private corporation has a contract at this time for 25,000 horsepower with the hydroelectric commission of Canada, but Mr. Monaghan, who is to appear before this committee, is on his way here now, and he will tell you about that. I understand his train has been delayed, but he will be here some time this forenoon. While we are deeply interested and want to utilize a portion of this power, we are also interested in seeing some sort of regulation over the prices charged the consumers in Detroit. I do not think it should be left in the power of any corporation to exact exorbitant prices from the people of Detroit or any other city. I merely wish to make a suggestion. I think this is a matter over which the Federal Government has exclusive control. Certainly if we have the right to exclude this power from Canada entirely, we have the right to regulate the price; and it occurred to me that it might be a good idea to place this entire matter in the hands of the Interstate Commerce Commission. They could have the same authority over these rates that they exercise over the railroad rates. I think that will be satisfactory to the people of Detroit. So, in brief, we are interested in being in a position to import this power, and also to safeguard the citizens of Detroit who may use it.

The CHAIRMAN. As I understand it, the city of Detroit has a municipal lighting plant and a contract with the Ontario Power Co. to furnish power, etc.?

Mr. BRISTOL. No; that is the hydroelectric commission. Mr. Monaghan represents that.

The CHAIRMAN. And this company intends to sell the power to the city?

Mr. DOREMUS. They have a contract to sell 25,000 horsepower, and they intend now to extend the power to Windsor. I am assuming, gentlemen, that the treaty between this country and Great Britain accomplishes the purposes for which it was made and that it does amply protect the scenic beauty of the Falls.

A MEMBER. What is the nearest place to Detroit?

Mr. DOREMUS. I am not prepared to answer that. I should have mentioned it, Mr. Chairman, but we have no public-service com-

mission in Michigan with power to regulate prices charged the consumers of light and power.

Mr. SHARP. Do you think it would be competent for Congress to confer jurisdiction upon the Interstate Commerce Commission to determine the reasonableness of rates on power transmitted from Canada into this country?

Mr. DOREMUS. I do not think there is any question about it, under our constitutional power, to regulate commerce between the States and foreign countries.

Mr. FLOOD. I notice in the Smith bill a provision that no charge shall be made to individuals or municipalities greater than in Canada. What do you think of that?

Mr. DOREMUS. I do not how that would operate in practice. The object of the Canadian Government is to furnish power from the Falls to Canadian cities at actual cost. Now, if this power is to be used in Detroit through a private corporation it would be entitled to a fair return on the capital invested, which, of course, it could not obtain if required to furnish the power at cost.

Mr. COOPER. Where can we get the specific information?

Mr. DOREMUS. I think from the hydroelectric commission of Canada.

Mr. COOPER. I mean, is there any official document in this country that will give us that information?

Mr. DOREMUS. I do not know.

Mr. FLOOD. You think, then, Mr. Doremus, it will take some more legislation than that indicated in the Smith bill?

Mr. DOREMUS. Why, I judge that ought to be changed in some degree, although I have not given that particular feature much consideration. But I do think there should be some legislation, and the rates should be under the control of the Federal Government.

Mr. CURLEY. I was going to ask you if you could state the difference in prices between the manufacturers of electric light in Detroit and that which would be made in consequence of this lighting scheme?

Mr. DOREMUS. The only thing I can say is what Mr. Monaghan said, that they could furnish it for 20 per cent less than is now charged.

Mr. CURLEY. Would the private operating companies that are now doing the work in Detroit find it advisable to continue it at 20 per cent of the present rate?

Mr. DOREMUS. Well, I do not think that they would be driven out of business.

The CHAIRMAN. The committee will now hear from Mr. George P. Sawyer, chairman of the committee representing the Chamber of Commerce of the city of Buffalo.

Mr. GEORGE P. SAWYER. The chamber of commerce in the city of Buffalo has thought it worth while to send a committee here, consisting of myself and my two colleagues, in order to say to you gentlemen that there is a very exigent demand in the city of Buffalo and in western New York for an increased amount of power. From the time of the Pan American Exposition, 10 years ago, we have called ourselves the "Electrical City." Our plans, our investments, our development, have been based upon the benefit of Niagara Falls power. We now get from the Niagara Falls, through its distributor, an

average of about 160,000 horsepower. Another company only skirts the boundaries of it. Our sovereign neighbor, the city of Lackawanna, where one of the largest steel companies is located, is a large consumer of power and practically a part of the city of Buffalo. There is a consumption by this secondary company of perhaps twenty or thirty thousand horsepower, so that we use, maybe, a hundred thousand horsepower there.

Mr. FLOOD. Who do you get this power from?

Mr. SAWYER. The Niagara, Lockport & Ontario Power Co. distributes to Lockport and the Ontario Power Co. distributes in the city of Buffalo. The Niagara Falls Power Co. is a growing company.

Mr. FLOOD. How much do you get from that?

Mr. SAWYER. The entire amount? I heard some of that comes from Canada; but while gentlemen representing these companies are here they can tell you better than I can. I am speaking now of matters that are well known and which are matters of common knowledge. The Canadian Niagara Power Co. is practically owned by the same people who make up the American Niagara Power Co., and they report in their permit about 150,000 horsepower.

Mr. DIFENDERFER. That is, about 150,000 that they are permitted to bring into this country?

Mr. SAWYER. That is all that this company can bring.

Mr. DIFENDERFER. How much of that is being brought into the United States under the treaty?

Mr. SAWYER. All of it.

Mr. COOPER. Who issues this permit? Is it by virtue of a treaty or a law, or what?

Mr. SAWYER. The treaty has amended the Burton Act; but of course, while I am very anxious not to venture upon subjects that can be better treated by other men—the amount is not strictly limited because the companies have the power—they have limited the power that they can import, but just in what way I do not know. You can get that from the power companies. But we will get about a hundred thousand horsepower if, as Buffalo asks you to do, you give us the treaty—the treaty which is the supreme law of the land—or, we think, should be—and which was negotiated after two years, when every circumstance bearing upon the matter was brought up to a highly skilled and trained body. Since then, by means which seem to me to be unfortunate—but I am not here, gentlemen, to make a speech or to be lengthy; I want to bring my remarks to a close.

On February 16, 1911, the Chamber of Commerce of Buffalo sent a telegram to Senator Root. At that time the act was pending. The telegram stated that the Chamber of Commerce of Buffalo desired most earnestly the extension of the Burton bill for a further period of five years, and asked for a public hearing at which to present their views, asking his leadership in placing the bill in his hands. This was signed by the president of the chamber of commerce. That was answered by a telegram from Senator Root saying that public hearings were not arranged for, and then another long and very emphatic telegram was sent. This was in February, 1911. I hold in my hands a resolution appointing this committee, and asking, among other things, the increased amount of power.

Now, gentlemen, that fixes my official status: and I can say, without power to represent technically, without any authority except that

covered by the Chamber of Commerce of Buffalo with its 3,500 members, that from Dunkirk to Syracuse, in the middle of the State, this same prayer goes up to you. The street cars in Syracuse are run by Niagara power. Rochester, Auburn, and many other places—a dozen—have their public utilities operated by this power, and they all want more. These two companies—one in Buffalo and one in the immediate vicinity of Buffalo—can take on to-day a new customer who wants more than 2,000 horsepower; but they must reserve that for the man who has taken 20,000 horsepower. As his business increases he must have more and more. We are now at a power famine. This treaty has been negotiated, and yet it has been obstructed, and we have come to pray that it be no longer obstructed.

Mr. DIFENDERFER. Then, your principal concern is that more power be created for the purpose of consumption by people who need it in your city of Buffalo?

Mr. SAWYER. Yes, sir.

Mr. DIFENDERFER. That is your principal contention. Then, if that is true, is it not just as necessary to your people that it should be transmitted more cheaply?

Mr. SAWYER. Just so.

Mr. DIFENDERFER. Then, would it not be better for a commission to regulate that?

Mr. SAWYER. I hesitate to answer that. I am a layman in this matter. I do know that there is nothing so complex or difficult as computations about electrical power. It is not like ale, which you can measure by the drink or pint or quart or by the gallon. There are gentlemen who are producing large amounts of power who say they can produce it just as well by steam. Mr. Frank Henry, of the Washburn Mills, told me the other day that he could make it just as cheaply making it in the city of Buffalo; and yet there are people who can tell you that electrical power does not cost half the amount that steam costs.

Mr. LEVY. I understood you to say that there is a practical power famine?

Mr. SAWYER. Yes, sir.

Mr. LEVY. And that to do justice to the people of Buffalo and vicinity and a large part of New York, it is necessary that the Falls may be made to yield more electric power. Is that so?

Mr. SAWYER. Well, we should import what we can under the treaty; yes, sir.

Mr. LEVY. Yes. Now, then, when that limit is reached there will be large plants, and won't there be another famine?

Mr. SAWYER. Well, sir, that I can not answer.

Mr. LEVY. And then won't there be another famine?

Mr. SHARP. A demand for the abrogation of the treaty?

Mr. SAWYER. Well, the treaty exists. When you come to move as large a party as the United States Government, plus the Government of Great Britain, why, that thing will have to be met by a future generation.

Mr. LEVY. If they should invent a storage battery that is as useful—and that is practically possible—there is no reason why they should not store up power during the night?

Mr. SAWYER. Yes, sir; enough for a generation.

Mr. LEVY. There might be discovered some substitute for electricity, but that is not probable. You say that the people of Buffalo want this on account of the power famine. Now, then, if this is done, the limit will be reached again and there will be another famine?

Mr. SAWYER. Is it not an adequate answer to that question to say that we have a treaty signed by the President, that this treaty was practically unattacked for a length of time, and then this was slipped over on use? We come, seeing that the presumption is in our favor on account of this treaty, and I can not assume the rôle of a prophet as to whether we shall want more.

Mr. DIFENDERFER. Right on the line of Mr. Cooper's question; as I understand it, it is a fact that out of 160,000 horsepower that Canada is permitted to put into this country only 110,000 of it is being used now. If that is true, then there are 50,000 horsepower remaining in Canada that can be used. Why should there be a famine?

Mr. SAWYER. I could answer that, but—

Mr. GARNER. Might I ask you a question? The basis of this treaty was the preservation of the beauty of Niagara Falls?

Mr. SAWYER. Yes, sir.

Mr. GARNER. And thus we are fighting the proposition of permitting a greater amount of power to come from Canada. That is with the presumption that Canada will not use all the power that the treaty now gives; is that not true?

Mr. SHARP. Domestic.

Mr. SAWYER. Why, no; I think that is a matter of information.

Mr. GARNER. I will ask you this question, then: If Congress did not pass laws regulating the importation of power from Canada, you could bring in the full amount that the treaty permits Canada to produce?

Mr. SAWYER. Yes, sir.

Mr. GARNER. And also use the full amount that the treaty permits the United States to utilize?

Mr. SAWYER. Yes, sir.

Mr. GARNER. Now, the only discussion would be to determine whether or not Canada could use that power at present—

Mr. SHARP. Domestic.

Mr. GARNER. All kinds of power; from both Canada and the United States.

Mr. SAWYER. I admit that; I admit that; but we who have been in Buffalo know that the cry about the beauty of the Falls is more neurasthenic than practical. You know that we can go to the Falls day after day and year after year and never see any perceptible difference in the beauty of the Falls. Now, there are other men who can argue that better, but the substance of your question was that there was some invasion on this scenic beauty, and that I deny.

Mr. GARNER. My object is this: In case Congress should extend it 160,000 horsepower, would it not naturally follow that in the course of time manufacturing establishments would be created along the border, where the entire power would be utilized by Canada and the United States would have none?

Mr. SAWYER. Certainly; the water will be abstracted anyway.

Mr. GARNER. As I understand the Representatives who would like to see the scenic beauty preserved, if we prevent a foreign power being imported into the United States it will be years and years—probably a century—before the power will give out?

Mr. SAWYER. Oh, no.

Mr. SMITH, of New York. Mr. Garner, there is one other speaker following who will answer that.

Mr. CURLEY. What is the difference in the prices charged by the two operating companies up there?

Mr. SAWYER. I do not know anything about the price.

Mr. CURLEY. Why, of course you know; you are a member of the chamber of commerce.

Mr. SAWYER. No; I am struggling to fully answer all your questions.

Mr. FLOOD. It seems to me that these companies have divided the territory up.

Mr. SAWYER. Apparently; but that is not true. The greatest difficulty I have is in talking about two things at the same time. All that I know is that there are two companies in Buffalo. Unfortunately, we have certain theoretical gentlemen who have never at any time accomplished any good for themselves or anybody else, but who are abundantly able to run all the civic associations, public-service corporations, banks, and everything else. These gentlemen say that we will be obliged to go outside; that is what sent them, I assume, to Dunkirk, to Auburn, and to Montmorris.

Mr. FLOOD. What sort of a contract did this company in Buffalo make?

Mr. SAWYER. I can not go into that.

Mr. CURLEY. You will agree that it is a very important question?

Mr. SAWYER. Oh, no.

Mr. CURLEY. Then you can withdraw it.

Mr. SAWYER. Yes; but they wanted to specify other things.

Mr. KENDALL. What do they charge for a kilowatt?

Mr. SAWYER. I do not know.

Mr. KENDALL. You are here representing nobody?

Mr. SAWYER. No, sir—

Mr. KENDALL. Are you interested in any of these companies?

Mr. SAWYER. Certainly I am not.

Mr. KENDALL. What do you use in your place—kerosene or gas?

Mr. SAWYER. Gas; natural gas.

Mr. KENDALL. Are you in business in Buffalo?

Mr. SAWYER. Yes, sir.

Mr. KENDALL. Use kerosene?

Mr. SAWYER. I am a director in various companies that use that, but I am not strictly a manufacturer.

Mr. KENDALL. You buy a lead pencil in a store and you know what you pay for it?

Mr. SAWYER. No, sir; I have a stenographer who buys them, and I would go crazy if I tried to know what I paid for everything. [Laughter.]

Mr. CURLEY. I assumed that you were a practical man because you spoke so slightingly of the theorists, and as a practical man you should be familiar with the prices charged per kilowatt—

Mr. DIFENDERFER. Will you answer my question?

Mr. SAWYER. Every contract that is made has to be filed with the public service commission. I am a director of a company—I happen to be the president of a company which had to negotiate for a considerable quantity of Niagara power, and we could not do it because I thought we could light our office building cheaper in the old way, and we have been going on and taking care of things. Last month we made a contract for a long term of years with an electric company. I do not know whether we have gotten it more liberally, but I think they have come down. Now, these prices all have to be O. K'd.; every contract that is put on file. The Utilities Commission of the State of New York has been in operation since July 1, 1907. Its decisions and the character of its members has given that commission a standing that is similar to that held by our Supreme Court or even our Court of Appeals. A good many of them are laymen, but some of them are lawyers, and I think that answers the question of price in New York State. I think the complications growing out of any attempt to make the price parallel to that of any other country is likely to be futile, but that is only my opinion about it.

Now, gentlemen, I have one other thing to say from the chamber of commerce, and that is, that we want you members of this committee to come up there as our guests and see the Falls and study them at close hand. Gentlemen, remember that we have been studying this proposition since 1890, when the first electrical installation began, and it is full of pitfalls and full of complications, and a man must be almost superhuman who can handle this as an academic proposition without having the thing before his eyes and mind, to get really the idea.

I have had the honor of conducting to the Niagara Falls the President of the United States and spending a day with him—

Mr. LEGARE. I want to ask you this question: Was not the question of scenic beauty settled by this treaty?

Mr. SAWYER. Certainly.

Mr. LEGARE. Was not the treaty brought about by the endeavor to find out just how much water could be used without affecting the scenic beauty?

Mr. SAWYER. Yes.

Mr. LEGARE. And did not that commission of scientists decide that the amount of water used in the treaty could be used without affecting the scenic beauty and no more?

Mr. SAWYER. Yes.

Mr. LEGARE. And we can use the limit, then, mentioned in the treaty?

Mr. SAWYER. Yes, sir.

Mr. FLOOD. A more important question is the question of the price of this power transmitted from Canada.

Mr. SAWYER. I only want to get my invitation out.

Mr. GARNER. If it is the duty of this committee to go to Buffalo and Niagara Falls for the purpose of seeing the Falls, is not it the duty of the people of the United States to pay the expenses?

Mr. SAWYER. I am not a casuist, but I can not answer your question.

The CHAIRMAN. You have no objection to the members paying their own fares?

Mr. SAWYER. Not the slightest. I have been there on several occasions with the Committee on Rivers and Harbors.

Now, we want you to come to the city of Buffalo, which has a hundred thousand dollars to spend on advertising——

Mr. KENDALL. And entertainment.

Mr. SAWYER. And this would be a very cheap method of coming there. If you don't want to come at our expense, come at your own. It seems to me a needlessly sensitive question—only a matter of two days' banging around in a sleeping car. I think it is almost a senseless objection. We are so confident that you will agree with our position if you will come there and look at the Falls.

Mr. KENDALL. The treaty had its origin out of a general demand that existed in this country and in Canada for the preservation of the scenic beauty of the Falls?

Mr. SAWYER. Yes.

Mr. KENDALL. I think you will agree to that.

Mr. SAWYER. Yes.

Mr. KENDALL. And prior to the negotiation of the treaty the testimony of the most competent experts in this country and in the other country was taken as to the amount of water diversion that could be safely authorized and contemplated the preservation of the Falls?

Mr. SAWYER. I so understand it.

Mr. KENDALL. I think Mr. Root represented this Government and Mr. Bryce the other Government?

The CHAIRMAN. Yes.

Mr. KENDALL. They determined that not more than 36,000 cubic feet of water a second on the Canadian side and 20,000 cubic feet a second on the American side could safely be diverted. What is the equivalent horsepower of a cubic foot of power?

Mr. SAWYER. That depends on the effectiveness of the installation. It takes from 13 to 15, or even to 17.

Mr. FLOOD. It was said before this committee last summer to be 17.

Mr. KENDALL. Taking 15 as the mean, that would mean then that the United States would have the right to create 300 horsepower——

Mr. SAWYER. Fifteen——

The CHAIRMAN. Fifteen times twenty thousand.

Mr. SAWYER. Yes.

Mr. KENDALL. And Canada would have the right to create 36 times 15?

Mr. SAWYER. Yes.

Mr. KENDALL. Now, under the provisions of the Burton law only 160,000 horsepower can be transmitted into the United States?

Mr. SAWYER. Yes.

Mr. KENDALL. How much of that is now being appropriated by people on this side?

Mr. SAWYER. Why don't you let these engineers answer that when they come? I think there is a dead charter over there that is held in a dog-in-the-manger kind of way; but there are gentlemen here who can answer that, so please let me go.

The CHAIRMAN. Mr. Sawyer, there are eminent engineers here who can go into those details. What I would like to have you tell us is what the people of Buffalo want. I am a friend of Buffalo. Tell us what the chamber of commerce and the people of Buffalo want?

Mr. SAWYER. They want more power. They want the limitation removed. They want all the power that will come from forty-four hundred additional cubic feet per second on this side.

The CHAIRMAN. In other words, they want what the treaty gives the United States?

Mr. SAWYER. Yes; any they don't take any hand in the distribution of this forty-four hundred feet. Of course, we want it where we can get it.

Mr. GARNER. We want to thank you for your very kind invitation.

Mr. SAWYER. I do insist that that is open to you at any time.

The CHAIRMAN. The committee will now hear from Gen. William H. Bixby, Chief of the Corps of Engineers of the United States Army.

REMARKS OF GEN. WILLIAM H. BIXBY, CHIEF OF THE CORPS OF ENGINEERS OF THE UNITED STATES ARMY.

Gen. BIXBY. Gentlemen, I came here with a little more haste than I expected this morning, because I did not have much notice that I would be called on this morning. I have brought along with me Maj. Ladue, of my office, who has had special charge of this Niagara Falls matter during the past few years in my office; and I have also brought with me Mr. Buell of his office. We have come without any special preparation of figures or specially prepared documents. We can furnish these to you at any time if you will indicate just what you want. Of course, we can state all that we have gone over in the past years; but the most essential features of the engineer's work in the preservation of Niagara Falls are all boiled down in the printed report which you have in front of you.

Mr. DIFENDERFER. What is that printed report which you speak of?

Gen. BIXBY. House Document 246.

Mr. GARDNER. Oh, no; that is not it.

Gen. BIXBY (after examining pamphlet). No; it is a quarto volume about three-quarters of an inch thick.

Mr. DIFENDERFER. It is a Senate document. As printed it is a Senate document, No. 105. Mr. Cooper, you can get it.

Gen. BIXBY. The document that is already printed and distributed is Senate Document No. 105. The other document, which is in proof sheets and in the printer's hands now, is House Document No. 246, this session—they are two separate and distinct documents.

Mr. DIFENDERFER. This House document is later?

Gen. BIXBY. It is running through the press now and will be bound and distributed presently. In this last document we state the exact total effect, so far found, on Lake Erie and on the Niagara River of the diversions up to date; and have made estimates of what the effect will be on these waterways from the total diversions that are being permitted, and they will be accompanied by figures.

Mr. KENDALL. You have reported what the effect will be of the diversion allowed by law?

Gen. BIXBY. Not all of it, but of so much as has been used.

Mr. KENDALL. Then you have reported what, in your opinion, would be the effect—

Gen. BIXBY. We figured what would be the total effect from the total diversions authorized for the American companies.

Mr. GARNER. Are those figures that you can give us now?

Gen. BIXBY. Yes, sir; the effect on the Horseshoe Falls from 26,600 cubic feet per second diversion. That is the authorized diversion on the American side plus the estimated actual diversion on the Canadian side June, 1911.

Mr. GARNER. What is the effect on the Horseshoe Falls?

Gen. BIXBY. Four inches at the American side and 9 inches on the Canadian side of the Horseshoe Falls; and five-eighths of an inch on the American Falls.

Mr. GARNER. It has that effect now?

Gen. BIXBY. Yes, sir; with the present diversion.

Mr. FLOOD. The question we are considering is, What effect it would have on the Falls to divert 4,400 feet more?

Mr. GARNER. What effect it would have on the Canadian Falls, too.

Gen. BIXBY. Well, we get this total of 4 inches at one end and 9 inches at the other end of the Canadian Falls from the 26,000.

Mr. LEGARE. And you get the five-eighths of an inch on the American side?

Gen. BIXBY. Yes, sir; on the American Falls; so that the 4,000 more of flow will hardly be appreciable. Now, the present effect that we get on the Niagara River is about 5 inches at the head of the rapids above the Falls, and the present effect of the total diversion is only about an inch and an eighth on Lake Erie, so that, so far as navigation is concerned, there is no serious injury by any of these diversions, and I should not think them anything serious. The effect on the beauty of the Falls depends largely on what the lowering from 5 to 10 inches will produce in scenic effect. Now, our reports give photographic views at high water, at low water, and at mean water on the Falls, so that anybody can look at these pictures and see how much each portion of the Falls is affected—how the Falls show up.

The CHAIRMAN. And can it be perceived, General?

Gen. BIXBY. Oh, yes; the pictures show the three stages of water.

Mr. GARNER. General, might I ask you whether or not you have estimated the effect it would have to consume the entire water allowance authorized by the treaty on both sides of the Falls?

Gen. BIXBY. We have not figured that out for the total consumption, but it can be figured out roughly from these other figures and there would not be much difference.

Mr. GARNER. In other words, it would not affect navigation?

Gen. BIXBY. Its effect on navigation would be something less than 2 inches on Lake Erie, and of course a fraction of that would back up on Lake Huron.

Mr. KENDALL. What is 26,000 feet per second, general?

Gen. BIXBY. Why, we had the authorized diversion of the United States and the estimated diversion on the Canadian side, and we had taken the actual measurements at different stages as bases, and then figured these diversions to get the mean effects for these places.

Mr. KENDALL. The authorized diversion on the American side is 15,600.

Gen. BIXBY. Not by the treaty. That is 20,000, but at the time when these reports were going through we were working under the Burton Act.

Mr. KENDALL. Of course, the Burton Act does not authorize any larger diversion than is included in the treaty.

Mr. FLOOD. He is talking about——

Gen. BIXBY. They were estimated to be using 11,000 on the Canadian side; we took 26,000 as the total.

Mr. FLOOD. You said to divert the additional 4,400 feet would not hurt the Falls——

Gen. BIXBY. The additional 4,400 would not be noticeable.

Mr. FLOOD. But the difference in the Falls that you can see in the pictures is that due to the low water or to the diversion that has already taken place?

Gen. BIXBY. To both.

Mr. DIFENDERFER. Now, just let me get this into my head. Maybe you understand it, but I do not. Suppose it is low water, it is 10 inches lower than it would have been if there had been no diversion, is it not, at low water?

Mr. LEGARE. If there had been no diversion at all.

Gen. BIXBY. Ten inches lower from what?

Mr. COOPER. If there was no diversion at all, this taking out of 26,000 puts it 10 inches lower than it would have been had there been no diversion.

Gen. BIXBY. The total diversion is figured to produce 4 inches drop in level at the American end and 9 at the Canadian end. That is figured at a mean stage, and it is probable that it would be the same at a low stage, or at the high stage. That is, figuring 15,600 cubic feet on the American side and 11,000 on the Canadian side, making 26,600 total diversion from the Falls. Four thousand four hundred would be about one-sixth of that.

Mr. KENDALL. The computations you have made there were on the assumption that only 26,000 cubic feet were diverted?

Gen. BIXBY. Yes, sir.

Mr. KENDALL. Under this treaty Canada has the right to divert 36,000 cubic feet per second and the United States has the right to divert 20,000?

Gen. BIXBY. Yes.

Mr. KENDALL. Now, suppose that entire diversion should occur?

Gen. BIXBY. Yes. Quite likely we would get double the drop we have at present—about 8 inches on the American end and about 18 inches on the Canadian end.

Mr. KENDALL. That probably would not affect navigation materially?

Gen. BIXBY. No, sir.

Mr. KENDALL. What effect would that have on the scenic beauty of the Falls?

Gen. BIXBY. It would make more than the difference you can see in the photographs, between the mean and low stages.

Mr. COOPER. That does not include the Chicago Drainage Canal?

Gen. BIXBY. No.

Mr. KENDALL. How much is utilized by the Chicago Drainage Canal?

Gen. BIXBY. Well, they have an allowance of between four and five thousand cubic feet from the Secretary of War. They are practically using, I am told, in the neighborhood of 7,000. They built their works for 10,000; and their statement that their canal could carry

10,000 was in their original request for a permit, and this is considered as their limit, and was so treated in the International Waterways Commission reports. Chicago has been requesting the Secretary of War to grant them the privilege of using 14,000, saying the canal can take it. Now the actual consumption of to-day is between five and eight thousand.

A MEMBER. Now, we are utilizing at Niagara 15,600 diversion—practically?

Gen. BIXBY. We have not found that yet. Last year the report of June 30, 1911, showed the total diversion on the American side as being only 13,800 cubic feet a second, and the total diversion on the Canadian side was only 11,010 feet per second.

A MEMBER. Why do we get the figures constantly recurring here—20,000 and 36,000?

Gen. BIXBY. Because that is allowed by the treaty.

A MEMBER. But it is not what is being actually taken?

Gen. BIXBY. No; it is not what is being actually taken.

A MEMBER. Now, take what the Chicago Drainage Canal takes in addition to this 20,000.

Gen. BIXBY. Nobody knows just how much they are entitled to at Chicago. The figures at Niagara are the 20,000 for the United States under the treaty and the 36,000 for Canada, and have nothing to do with Chicago.

A MEMBER. Is it your idea that the 20,000 does not affect the amount taken out for Chicago?

Gen. BIXBY. Why, yes.

Mr. KENDALL. You mean from a treaty standpoint?

Gen. BIXBY. From a treaty standpoint.

The CHAIRMAN. General, there seems to be some confusion as to the figures that you used. I believe you stated that Horseshoe Falls has been lowered about 4 inches on the American side and 9 inches on the Canadian side, and I understand you to say that the American Falls show only about five-eighths of an inch. Is that correct?

Gen. BIXBY. Those are the figures; they are given very carefully in a statement in this printed report that is coming out.

The CHAIRMAN. General, have you made any investigation as to the effect on the lakes?

Gen. BIXBY. The effect follows from one lake to another, but it is diminished in passing from Lake Erie to Lake Huron. If Lake Erie stands higher, so does Lake Huron, but the difference is small if you consider what is backed up.

Mr. COOPER. May I ask you a question? Do you know whether all the water that is now being taken is being taken from the river above the Falls?

Gen. BIXBY. It is taken from different places along the river, up quite a distance.

Mr. COOPER. Would it be possible to secure sufficient power from the lower river? It has been stated that the Falls drop about 82 feet in the distance of about a mile and a half. Do you think it would be possible to change that for commercial purposes?

Gen. BIXBY. Why, I could not judge how much Buffalo wants; but you could get a large power, of course, by putting a dam across the Niagara River at the lower end where it comes into the lake, and so utilize the water that comes from the Falls.

A MEMBER. But that is not on the Falls.

Gen. BIXBY. Down below the Falls.

The CHAIRMAN. Gen. Bixby, Mr. Rome G. Brown would like to ask you a few questions.

Gen. BIXBY. Yes, sir.

Mr. BROWN. Simply for this purpose, having in mind what I remember to have been one or two conclusions of the engineers' report last year, I thought I would ask the General if my conclusions as to his conclusions are correct. Is it not true that the surveys made by the United States surveyor show substantially that the entire amount of the diversions at Niagara Falls—those actually made and those authorized—would not have any appreciable effect, any substantial injurious effect, upon the navigation of the Niagara River or Lake Erie?

Gen. BIXBY. Yes, sir.

Mr. BROWN. That, as I understand it, is a conclusion, is it not—that there is no serious injurious effect upon navigation?

Gen. BIXBY. The effect is appreciable. The question is whether its effect on commerce is of serious moment. The difference in level in Lake Erie would be approximately about 2 inches; and with all the commerce that floats upon the lake the question, then, is, What is the value of a difference of 2 inches in a draft of 19 feet?

Mr. BROWN. That is 2 inches at the outlet?

Gen. BIXBY. Yes, sir.

Mr. BROWN. The entire lake?

Gen. BIXBY. Yes; because Lake Erie is supposed to be level.

Mr. BROWN. As I understand you, the diversions made and authorized would not have any substantial effect upon navigation?

Gen. BIXBY. Well, the report says that the effect can not be neglected. Its effect is small because it is only 2 inches.

The CHAIRMAN. General, practically all of this water goes over the Falls, does it not?

Gen. BIXBY. All of the water that is used for power purposes at Niagara River comes down toward the Falls; some of it is taken out and goes around the Falls, and it all goes out of the river into Lake Ontario.

The CHAIRMAN. The water used for power does not go over the Falls, does it?

Gen. BIXBY. The amount that is used for power does not go over the Falls.

The CHAIRMAN. In other words, if the water was not diverted it would go over the Falls?

Gen. BIXBY. Yes, sir.

The CHAIRMAN. That is the point.

Gen. BIXBY. Yes.

The CHAIRMAN. So that so far as the lowering of Lake Erie is concerned—that is immaterial because it would be lower anyway?

Gen. BIXBY. No, no; there is a point in there that does not show up at first sight.

The CHAIRMAN. Tell us just what difference does it make?

A MEMBER. A layman might understand that if you offer a means of outlet the water will go out. If you build a dam across a creek or in a gutter it will flow around; if you put a ditch there it will flow more rapidly.

The CHAIRMAN. That is the proposition I wish you would explain.

Gen. BIXBY. Yes, sir. Now, when the water flows over the crest of the Falls it drops freely and there is not anything to stop it; consequently it falls downward at a greater speed than it has in the Niagara River above the Falls, and the only reason it does not move so fast in the Niagara River above the Falls is because of the friction of the rocks on the bed of the stream, and also because of the particles of water in its own way, so that the water above the crest of the Falls has to go somewhat slower. When it goes over the Falls it goes much more rapidly.

Now, the pumping of water out of the Niagara River for power purposes does take away from that river above the crest of the Falls a certain amount of water and a certain amount of resistance to the water above; so that the water above comes down much more rapidly than if you did not take out the water below. In the same way as if a crowd of people were coming down a staircase; if you have a policeman come along and take away the front third of the people, then the crowd in the rear can move along so much the faster. So that at Niagara Falls the diverting works do the policeman's work of taking the water away more quickly below, and the water above moves faster on account of the diversion; and as it moves faster the level of Lake Erie drops somewhere between 1 and 2 inches.

The CHAIRMAN. I think, General, you have made that clear.

Mr. DEFENDERFER. Moving faster?

Gen. BIXBY. Yes, sir.

Mr. KENDALL. Let Mr. Brown finish his examination; he is still on his feet.

Mr. BROWN. Is it not true, and so stated as a conclusion in your report, that the larger part of the Canadian diversion is below the crest, so that the diversion made by the two companies has no effect whatever upon the waters of Lake Erie?

Gen. BIXBY. As the water approaches the Falls it goes down the rapids over one or two little crests, one or two rapid drops; and on the Canadian side the greater part of the power diversions are between the top of the Falls themselves and the top of the rapids—they are in between the two. The biggest diversion on the Canadian side is down close to the top of the Falls—so far down that it does not produce any appreciable effect on Lake Erie.

Mr. BROWN. The water being taken below the weir point, I suppose the engineers call it?

Gen. BIXBY. Yes, sir.

Mr. BROWN. That would be so small that particular diversion would have no appreciable effect?

Gen. BIXBY. Very much less effect than the other, because it is taken where the water is dropping faster.

Mr. BROWN. Mind you, General, I am not trying to cross-examine you, but I want to bring out certain facts for the benefit of the committee. Is it not true, and so stated by you as a conclusion, that the diversions that are being made, even up to the amounts authorized, have and would have no perceptible or appreciable effect upon the scenic appearance of the American Falls—that which is east of Goat Island?

Gen. BIXBY. We only get, as I explained here, five-eighths of an inch on the American Falls from all the diversion on the American

side, plus the present consumption on the Ontario end; and that is very little.

Mr. BROWN. And the additional diversion of 4,400 feet would be hardly appreciable?

Gen. BIXBY. Hardly be noticed.

Mr. BROWN. Then the conclusion as to the American Falls is that the amount actually diverted, even if the 4,400 feet more were actually diverted—the effect on the scenic appearance of the American Falls is inappreciable—speaking only of the American Falls?

Gen. BIXBY. I think you are right; but I have not absorbed fully the contents of this document.

Mr. BROWN. Neither have I. Then, as to the Canadian side—before I come to the scenic beauty again—you have spoken about the effects on the navigation of Lake Erie. Is it not your conclusion that, so far as the effect on that part of the Niagara River considered as a boundary line is concerned, that the effect of the diversions made, even if extended to the full amount allowed in the treaty, would be negligible?

Gen. BIXBY. I do not think I understand your question. It would not affect—it can not affect the boundary line.

Mr. BROWN. That is my point. On page 13 of Senate Document 105—I understand your conclusion to be that, so far as considering the boundary-line question, it has no effect on the boundary line?

Gen. BIXBY. Yes, sir; that is true; no effect on the boundary line.

Mr. BROWN. Now, then, General, having spoken of the effect on the navigation of Lake Erie, and on the river as an international boundary line, and that even as to scenic beauty there is no effect on the American Falls, may I ask you one or two questions as to the Canadian Falls? [Reading from paper:] “There are on the Canadian side certain falls known as the Horseshoe Falls.” The effect that you have found is something like 4 inches on this side of the Horseshoe and something like 9 on the other side?

A MEMBER. Did you say 3 or 4 and 8 or 9?

Mr. BROWN. Four and nine.

Mr. KENDALL. Of course, that is not on the assumption that 56,000 feet will be diverted, but only that it may be.

Mr. BROWN. This is only preliminary. The effect of this entire diversion in the river shows a difference of 4 inches on the American side of the Horseshoe Falls and 9 inches on the Canadian side. Now, General, is it not true, and so stated in your report as a conclusion—I want to compare that variation of the levels in the river—is it not true, and so reported in your report, that an easterly breeze across Lake Erie—not a hurricane, but a breeze—would make a difference in the level of the overflow of Lake Erie of several feet?

Gen. BIXBY. It will do so.

Mr. BROWN. And would not an ordinary westerly breeze have the effect of temporarily affecting the depth of the water over the Canadian Falls a matter of a foot, or maybe a foot or two?

Gen. BIXBY. It would increase it.

Mr. BROWN. And is it not true that the variations in the levels of Lake Erie may be due to the difference between a strong westerly breeze and an easterly breeze—the variation of 14 feet?

Gen. BIXBY. It has been something like that.

Mr. BROWN. That is, an easterly breeze has been known to raise the level of Lake Erie?

Gen. BIXBY. The easterly breeze raises one end and the westerly raises the other.

Mr. BROWN. Well, it piles it up—may make 14 feet difference?

A MEMBER. Fourteen feet where?

Mr. BROWN. An easterly breeze might pile up the waters 8 feet?

Gen. BIXBY. Somewhere around that.

Mr. BROWN. And at the same time would affect the depth to some extent all over the lake, and at the same time it affects the depth over the Falls?

Mr. KENDALL. These propositions seem so self-evident.

Mr. BROWN. I was only bringing them out to emphasize the effect of natural causes—for comparison.

Mr. COOPER. Now, I ask you to refer to page 15; it is later and, under the ordinary rules of construction in law, ought to represent your later impressions. [Reading from document:] "The Falls are held in trust, etc., from the Canadian side." Is that your conclusion?

Gen. BIXBY. That was the conclusion of the writer of this report.

Mr. COOPER. Who wrote that?

Gen. BIXBY. Maj. Keller.

Mr. KENDALL. Is he an expert in your department?

Gen. BIXBY. Yes, sir.

Mr. COOPER. I would like to read this on page 15 [reading]: "An earnest consideration of the effects, five to five-tenths inches."

Mr. KENDALL. Canada is likely to divert all under this treaty without our control.

Mr. COOPER. I observe this photograph was taken at a time when tourists are most generally at the Falls—midsummer, July 26. I observe for a long distance there is no water going over there, apparently; and if it is, it is a very straggly, scraggly stream. If that was lower, how much more scraggly would that look?

Gen. BIXBY. If you take away all the water, the Falls will be gone. The question is simple; but where are you going to draw the line as to amount to be taken?

Mr. GARNER. General, I did not know until Mr. Cooper read it into the record that your department was considering the question from the scenic viewpoint. There are four propositions being considered. The first question is, Will Congress take any action to govern the taking of this water or let the treaty stand as the law? The second proposition is, if we do, Shall we permit on the American side more diverting of water than is contemplated under the Burton Act? The third is whether we shall permit power to be transmitted from the Canadian side in excess of what is allowed—160,000 horsepower.

Gen. BIXBY. Well, I should like to take up the questions rather in the inverse order, because I can answer them more quickly in that way. So far as the importation of power is concerned, the Engineer Department has no interest whatever, so far as I am able to discover. I have always considered that it was a question of protection or tariff or both. It has no value to us from an engineering point of view. It is a question that would possibly come up under conservation. If we want to conserve power to the United States, there should not be any objection whatever to importation of electricity; but the United States, through the War Department and Chief of Engineers, has watched that question simply because it was laid

down in the Burton Act, and as somebody had to do it, the Secretary of War did it. Now, we have tried to follow out the conditions of the Burton Act, but it is exceedingly difficult for us to find out how much electricity is generated on the Canadian side, and it is a question of some difficulty to say how much they would send over the Niagara River if there were more cables; and such measurement is a piece of difficult work which the Engineer Department is not specially interested in, but it is willing to do as well as it can at any time if Congress says so. We are willing to do it if Congress so wishes.

As far as the importation of power is concerned, the War Department has no interest one way or the other as to where the electricity goes nor how much of that power is moved in one direction or another, but there is a point about the power that we think somebody ought to look after, and that is, in the interests of conservation, the United States ought to see that so much of the surplus water as is allowed to be diverted should be made to develop all the power that it can give and, therefore, if anybody is going to take water from the Falls to develop power, they ought to use the entire drop of the Falls down to Lake Ontario, because every foot of drop means that much extra power, for if 1 foot gives 1 horsepower, 2 feet will give 2 horsepower, and 10 feet will give 10 horsepower, and so on; and so I think the United States ought to select the individuals who can get the most work out of it. We ought to get some legislation on it somewhere.

Mr. KENDALL. I think the legislation in the Burton Act was for the purpose of controlling, as far as it could be done by this Government, the diversion on the Canadian side. If that limitation is advanced or removed, it would to some extent appreciably diminish the scenic appearance of the Falls?

Gen. BIXBY. Well, personally I do not know anything about this except my own personal views; but I do not expect to see but a very few years elapse before Canada will use every bit of water that it can take and the United States will use every bit of water that it can take; and if the Canadians have any trouble in exporting the power from Canada, I do not think it will be more than a few years before they will be using it up at home. I think all this power will be used for electricity, and the place of its use is not the concern of the War Department, nor does it concern navigation.

Mr. GARNER. In other words, General, if we pass a law prohibiting that power from being utilized by American citizens, Canada will allow it to be used on the Canadian side?

Gen. BIXBY. Yes, sir.

Mr. SHARP. Of course, that is on the assumption that the Canadian Government will not interfere?

Gen. BIXBY. Well, if they can not find capital at home they will use American capital.

Mr. SHARP. I mean for the preservation of the Falls?

Gen. BIXBY. Oh, yes.

A MEMBER. You mentioned the fact that this water should be used with greater or more potency to develop power?

Gen. BIXBY. There are plants now on the American side that do not derive as much power as they can from the water used by them. The Niagara Falls Hydraulic & Manufacturing Co. drops its water 205 feet and gets every foot of work out of it. Now, the Canadian

Niagara Co. uses a drop of but 140 feet, the Electrical Development Co. uses a drop of but 135 feet, etc., the Hydraulic Co. and the Ontario Co. get about 200 feet drop out of that water, and some others only get 50.

Mr. GARNER. General, in that connection, your contention is that, in the interests of conservation, the companies taking the power on both sides should be required to get the greatest power out of the water being utilized?

Gen. BIXBY. Exactly.

Mr. GARNER. Now, I can see no way by which the American Congress can control the Canadian side, unless they control the importation of power into the United States. We can not control it unless we say to the Canadian power companies, "You must comply with certain regulations"——

A MEMBER. In utilization of the potency of the water.

Gen. BIXBY. Yes, sir. Well, I presume that some restrictive legislation as that might be found that would have that effect for a few years, but it would not be for long, because even Canada is not going to throw away water power and dollars and cents for many years to come. I know if I had a dollar and one man could get 10 per cent interest out of it and another man 20 and another 40 I would hunt up the man who would give me 40 per cent. Now, we can get from one and one-half to four times as much power out of this water by using the same arrangements as the Niagara Falls Hydraulic Co. and the Ontario Co. are using, and we can get from one and one-half to four times as much business and profit out of it as anybody else using that power like the other companies with from 50 to 135 feet head.

The CHAIRMAN. Gen. Bixby, have you any objection to Richard B. Watrous, secretary of the American Civic Association, asking you a few questions?

Gen. BIXBY. Not at all.

Mr. RICHARD B. WATROUS. The reason I have asked permission to ask a question now is because the General has touched upon the question of using more than the amount of water that is used, and in this report, which is a very admirable report, there is one very pointed statement to the effect that one of the American companies is wasting one-third of the head of the water it is permitted to use.

As I understand it it is permitted to use 8,600 cubic feet, and a third of that would be 2,866 cubic feet. That transferred into power and, using the figures of Congressman Simmons, multiplied by 20, would be 57,320 horsepower. Using the figures which we have been using it would mean 34,392 horsepower. We have listened to the statement to the effect that Buffalo is crying for more water power. Now, the question I desired to ask of Gen. Bixby is whether, when this report was made, this information was obtained from that particular company?

Gen. BIXBY. I understand the company's plant is being changed.

Mr. WATROUS. Are there any late figures on it, General?

Gen. BIXBY. There may be, but I am not posted on the late figures. All I know is that the changes are being made, and my remarks are only aimed at the pure theory of conservation, which it is our bounden duty to get at.

Mr. WATROUS. I understand that, but in this report there is a more definite statement, where the waste of a third is quoted, and that

is recommended to be changed. It seems to me that there is one of the very strongest arguments, because if they would use what they are permitted to use they would supply a great additional demand.

Mr. GARNER. In that connection, may I ask whether or not under the Burton law you had any power to control the power plants?

Gen. BIXBY. The award was laid down for us and we were to watch its execution.

Mr. GARNER. Then you had no power under the Burton Act to control their methods?

Gen. BIXBY. No, sir.

Mr. GARNER. If you had that power you could have forced them to utilize the greatest amount of power?

Gen. BIXBY. Yes, sir; practically.

Mr. BROWN. May I ask the general a question? General, where a company, like the Canadian Niagara Co., takes its water from below the crest of the Falls—we have all seen, I think, that when a company takes it from above the crest the diversion tends to be unfavorable to navigation?

Gen. BIXBY. Yes, sir.

Mr. BROWN. Now, then, the Canadian Niagara Co. takes its water from below the crest?

Gen. BIXBY. Yes, sir.

Mr. BROWN. Therefore, we may find that the use of the lower head preserves navigation. Is that true? I mean, the company that takes water from below the crest would be a company that would not tend to injure navigation?

Gen. BIXBY. The lower down the water is taken the less the injury would be to the navigation interests.

Mr. BROWN. Then, is it not true that the lower the head at which the water is used the less the tendency is to injure navigation?

Gen. BIXBY. That is true in the case you mention.

Mr. DIPENDERFER. Now, General, these companies who are privileged to use this water, if they had consumed all that was in their power to consume, would it not have cheapened electricity? If these companies who are privileged to use this power had used the maximum capacity would it not have given the people a cheaper power? In other words, haven't the laws of supply and demand been defied in this case and the law of monopoly followed?

Gen. BIXBY. Probably if they had used the water at the greater head they would have made their electricity a little cheaper, but that is something I would not ordinarily inquire into.

Mr. SHARP. All these power developments precede the Burton Act?

Gen. BIXBY. They all precede the Burton Act, and the permits were issued with a fair regard to the men who were developing the business.

Mr. LEGARE. General, have you before you the amount of cubic feet that the Canadians are using?

Gen. BIXBY. In June, 1911, the Canadians were using about 11,000 cubic feet.

Mr. SHARP. Twenty-four thousand eight hundred.

Gen. BIXBY. Col. Riché, in charge of the lake survey, made this report.

Mr. COOPER. I observe on page 16 of that report, dated November 30, 1908, reported to the Secretary of War January 30, 1909, a little

less than two months later, and then by the President sent to Congress August 21, 1911—I think that is the day we adjourned—the Secretary of War sent it to the President on that day. Now, General, I observe on August 21—

Gen. BIXBY. On January 21, 1909; sent to the President August 19, 1911.

Mr. COOPER. That is over two years. I observe here on page 16 that there is quite a criticism of the plant there. I have been told by an electrician—I was told by him when I went through the plant—he said at that time that the machinery that was all right three or four years ago had practically become obsolete. Now, there is some very suggestive language on page 16 of this report. There is a statement in regard to the Niagara Falls Co. that would seem to indicate that that plant is not up to date. Is that so?

Gen. BIXBY. I judge so.

Mr. COOPER. They do not get more than two-thirds of what they ought to get?

Gen. BIXBY. Well, if they could have gotten more funds at the start, they could have gotten a bigger development, but they probably went as far as their finances allowed.

The CHAIRMAN. Mr. Edward A. Wickes, president of the Niagara Falls Power Co., desires to make a statement on this point. There being no objection he will proceed.

Mr. EDWARD A. WICKES. When these works were projected our first three dynamos produced more alternating current than was produced in the United States. We solved every problem that was presented to us. The men whose advice we followed were Lord Kelvin, Turretini, of Geneva; Mr. Unwin, the dean of the Central Institute at London; Mascart, of France; and Coleman Sellers, of America. They were in session for months. The plans that were followed were laid down by them and superintended here by the most eminent body of engineers that we could get. We have made no error, and when I asked some engineers the other way—they came from California—how many managed to avoid trouble they said, "Why, we copied your methods." Now I make this statement, because "bad work" and "bad management" have been suggested. There was never a time when our work halted for one moment for lack of money. We started with \$2,000,000 and we now have \$25,000,000 in it; and every step has been under the best advice. I say this that you might relieve yourselves from asking questions relative to absence of knowledge.

We installed and have maintained our works so as to get the best efficiency, the most head, consistent with full regard for scenic beauty. If we had put our buildings lower down or at the Falls, we could have used a higher head, but, under the advice of the best artists, to avoid marring the scenery at the Falls, we placed our power house and works up river, and carry the water from our wheels by a long underground tunnel—all at extra expense and with loss of head; but both these losses were deliberately incurred so as to protect scenic beauty. To discriminate against us now in the distribution of this proposed increase, because our head is lower than that of another company, is to penalize us for regarding and to reward others for disregarding the very object of this proposed legislation and of the treaty—the preservation of scenic beauty.

Gen. BIXBY. We have in our office no other thought than that mentioned by the last speaker. Even in our last reports all we are talking about is how it might be done with modern appliances and knowledge to get everything that could be gotten out of it.

Mr. COOPER. This officer says "All this is not intended as a criticism." That is all.

Mr. GARNER. General, you have been somewhat diverted.

Mr. SHARP. Mr. Chairman, I move that the committee adjourn. It is evident that we can not conclude this hearing this session.

The CHAIRMAN. Very well; we will now recess until 1 o'clock.

Gen. BIXBY. Mr. Chairman, I think that I can say all that is expected of me in a very few words. One of the other questions asked was whether the 15,800 feet per second should be increased to 20,000 cubic-foot seconds. So far as navigation and scenic beauty are concerned, I do not know of anything in my office that shows that the increase would seriously affect the two; the effect of the diversion of this 4,400 feet around the Falls would be practically inappreciable. The second question was—

Mr. GARNER. Is any legislation necessary under the treaty? For instance, you have just answered that it would not affect navigation or scenic beauty if the full amount under the treaty was taken from the other side.

Gen. BIXBY. Yes, sir. Our understanding in the Engineer Office has been that there is nothing in the Burton Act that would allow the Secretary of War to divide up that 4,400 cubic feet per second. The treaty gives 20,000 cubic feet as a limit, and nobody has been found in our office who is willing to say which company the additional water is coming to; the joint commission says it is not its business, and none of the secretaries will say that the law authorizes him to step in; so nobody has a right to say who shall get it; and any action we would take in the engineer department would be simply to report against anybody taking it.

Mr. GARNER. Then, as I understand you, we must either perpetuate this treaty or give the War Department authority to revoke permits?

Gen. BIXBY. Our office thinks that Congress must say how that 4,400 feet is to be divided and who is going to divide it. Now, as regards the increase from the old amount—up to 20,000 on the American side and 36,000 on the Canadian side—it has at least one good point, and that is that it does fix a limit on the Canadian side, where no limit was before. Whether that 56,000 feet total diversion is going to injure navigation or seriously injure the Falls, is something that our office thinks can be judged from the data which we put into this last report, which is being printed and which is dated in June, 1911, we think that report will give you gentlemen in Congress all the facts so far as they can be put down on paper. One of the photographs shows the contrast between the looks of the Horseshoe Falls on three occasions. At one of them the flow is about 60,000 feet a second greater than it is at the other, and you can see the effect in the difference between the photographs.

The CHAIRMAN. How soon will this last report be printed?

Gen. BIXBY. We are looking for it every day.

Mr. GARNER. Has it been sent to Congress?

Gen. BIXBY. Oh, yes; it has passed the proofreader.

Mr. SMITH of New York. How do you account for a lowering of 9 inches on the Canadian side and 4 inches on the American side?

Gen. BIXBY. It is due to the slope of the bed of the stream and to the way the water is taken out and to the shape of the Falls.

Mr. DIFENDERFER. The Falls are about 4 feet lower on one side?

Gen. BIXBY. Yes, sir; and it is due to the force of the water and the way it is pumped out.

Mr. SMITH of New York. The photographs show an exposure of the crest line of the Horseshoe Falls. You made a suggestion by which the water could be spread out, thereby continuing the scenic beauty of the Falls. I wish you would explain that plan to the committee.

Gen. BIXBY. It is always possible from an engineering point of view, though sometimes expensive, to regulate the flow of water in a rock-bed river like the Niagara River at that point. We could construct sills for that part of the river in such a way as to stop the present rapid retrogression. We could make the water quite uniform. Those things can be done, but they are, of course, very expensive. The best we can do is simply to get a little better appearance out of the Falls with a lesser quantity of water than we are getting to-day by correcting the irregularity of the flow at the borders; but in such matters I always go back to my boyhood days when I went to the Kauterskill Falls. I suppose as a very small boy the Kauterskill looked large. But I went up there some years afterwards, and if I would pay the owners so much they would turn the water on and let me see half as much water as I saw formerly. If I did not pay, they would not turn the water on. So it is simply a question of where you will draw the line between no water-power development and the unaltered Falls, and a full water-power development and no Falls: and only Congress can draw that line with the cooperation of Canada.

The CHAIRMAN. I believe that answers the questions.

Mr. SHARP. Mr. Chairman, I move that the committee rise.

The CHAIRMAN. Just a moment.

Gen. BIXBY. I do not think of anything else that I care to say, except to repeat once more that the Engineer Department, of course, finds a great deal of trouble and worry in supervising the water diversions and the water powers; but we probably have, at the lake survey, as good an organized force as is needed to do the work, and so we can do the work; and while we do not especially want it, we are not especially objecting to it. If Congress says that the War Department should do it, why, we shall expect to go right along doing it, and if the Congress says that the War Department shall not do it, and any joint national commission should be selected to do it, why, the commission will be sad and we will be happy. [Laughter.]

The CHAIRMAN. Gen. Bixby, if you desire to submit, as a part of your remarks, any additional statement, the committee will be glad to have you do it. We hope at the next meeting Maj. Ladue will be here.

Gen. BIXBY. And we would be glad if you would put up these little remarks into some shape so I can look them over.

The CHAIRMAN. That will be done. We are obliged to you. Gen. Bixby.

I will say to those present that to-morrow the committee will be obliged to take up the annual diplomatic and consular appropriation

bill, and hence we will adjourn this hearing until Thursday morning at 10 o'clock.

Whereupon the committee adjourned at 1.15 o'clock p. m. until Thursday morning at 10 o'clock a. m.

COMMITTEE ON FOREIGN AFFAIRS,
HOUSE OF REPRESENTATIVES,
January 18, 1912.

STATEMENT OF ROME G. BROWN, FOR NIAGARA FALLS POWER
CO. AND CANADIAN NIAGARA POWER CO.

The CHAIRMAN. We will hear Mr. Brown this morning. Mr. Brown, will you state your name, your residence, and whom you represent?

Mr. ROME G. BROWN. I am from Minneapolis, Minn. I represent here the Niagara Falls Power Co. and the Canadian Niagara Power Co.

Mr. DIFENDERFER. Of which Mr. Wickes is president?

Mr. BROWN. Of which Mr. Edward A. Wickes is president. Gentlemen, I appreciate the necessity of brevity in statements. I have tried to arrange in as brief a way as possible certain matters for consideration which, I believe, are important for you to have in mind in regard to legislation in carrying out this treaty. In going over my summary I shall be very glad to answer any questions that I am capable of answering, but if you will be patient it may be that I shall anticipate your questions in presenting my statement.

I will say that when I left Minnesota the thermometer was 40 below zero, but since I came down here I have caught a cold, which, like some Congressmen, is not only both reactionary and insurgent, but it is also progressive. [Laughter.]

Gentlemen, the concrete question before you, as I understand it, is what shall be the nature of a legislative act under the treaty of 1909 to take the place of the Burton Act, so called. Now, in making up your minds upon the nature of that act you would have in mind, and wish to have in mind and consider, certain propositions. You would want to have in mind what, if any—I am not stating them now—what, if any, are or may be the legal rights of those who have made investments at the Falls. Even if you did not regard fully their legal rights, at least you would want to consider what, if any, might be the equities of those people who have made their investments.

Mr. DIFENDERFER. Who gave them their legal rights?

Mr. BROWN. I am coming to that; I said "if any." You would also want to consider what rights and equities the people generally in the locality of the Falls and the general public, as represented by the National and State Governments, might have. Now, then, in order to have in mind what are—or, if you would not agree with me what might be claimed to be—the legal rights or the equities of the parties, as well as what might be the equities, rights, and interests of the public, it has seemed to be necessary—it certainly might be helpful—to bring ourselves down to date by a brief summary of what has taken place prior to this time; and let me give you the

summary. I will try not to be prolix, and some of the details of my argument I will hand to the reporter to be inserted as part of my statement.

No one will disagree with me when I say that the important interests that we have to protect here are the interests of the American investors and of the American public, as paramount, from our viewpoint, to the interests of the Canadian side. Now, way back in the nineties there were two interests—and I may say, gentlemen, that the interests of the hydraulic company and the Niagara Co. are not in conflict and not in dispute; their interests are similar. These two interests, prior to the passage of the Burton Act in 1906 and in the nineties, acquired on the shores of the Niagara River and appurtenant to the Falls, certain real estate interests, and they became at that time riparian owners. I am going to be brief. They became riparian owners on the Niagara River at the point of the Falls. Their situation then was this:

The Niagara Co. above the Falls, the hydraulic company below them but above the Falls, and the State of New York at the Falls—all had certain riparian interests under the law. The Niagara Co. acquired by grant from the hydraulic company below them, and from the State of New York at the Falls, the express grant and privilege (and the law is that such riparian rights are severable and can be granted in whole or in part), they acquired the riparian rights to do certain things. to wit, this: To go upon their land above the Falls and construct their works, including tunnels through the hydraulic company's land and through the State's land, and thereby use, that is, divert water sufficient to develop 200,000 horsepower, and to discharge the same below the Falls. Now, then, not only from these granted rights, but from the law of riparian rights, these companies were at that time advised by their counsel (not myself, but I would have told them the same thing) that they had the legal right under the law of the land, under the law of the State of New York, under the law of property right in this country, they had the legal right that could not be disputed or invaded by any man or by any Government, to make their structures and enjoy their rights, subject to this one qualification: That they must see to it that their diversions, whatever they might be, should not be such as unreasonably to interfere with the navigability of the Lakes or of Niagara River; and if they did not cause such interference, then neither the Government of the United States nor of the State of New York had any right or authority to prevent them from going ahead with their improvements and enjoying forever the beneficial use to which they were entitled under their riparian rights.

Mr. SHARP. What, in your judgment, would the vested interests to which you refer—would there be any complaint on their part if the Burton Act was reenacted, rather than if the whole amount were used, as under the treaty?

Mr. BROWN. I would say yes. Their vested-property rights would be interfered with. But I wish to say this: I am not here to argue to you against your right to legislate at all nor to try to cram down your throats what I think the law is. I am only trying to show you the circumstances under which these companies went ahead, and I want you to understand that what I shall urge upon you is to consider the equities of these companies, as they exist, under all the circumstances,

to have proper regard for their rights, at least their equities, in fixing the terms of the proposed statute.

Mr. DIFENDERFER. In a nutshell, then, your contention is that this committee has no right to enact any law?

Mr. BROWN. On that theory I think this committee has no right to enact any law.

Mr. DIFENDERFER. Has Congress, then, any right to pass any law?

Mr. BROWN. I think Congress has a right to pass a law within certain limits.

Mr. DIFENDERFER. That is what the committee would like to hear.

Mr. LEGARE. You may not want to answer my question at this time, but just keep it in mind. Having these vested rights, if Congress should pass a law fixing rates would it not be retroactive?

Mr. BROWN. I was not going to go into the matter of rates until later, but I think it would not properly be called "retroactive." If I understand the essence of your question I would say, in regard to rates, that it would not only be unwise for Congress to attempt to fix rates, but I think that such an attempt would be invalid and ineffectual. That power so far as it exists belongs to the State of New York.

Mr. LEGARE. That answers my question.

Mr. BROWN. I have certain things that I want to follow along and draw conclusions from.

Mr. LEVY. Is it your contention that the riparian owners, by the purchase of the adjacent land, acquired the right to divert any water that they might desire to divert, with the consideration that the interests of navigation should not be interfered with, no matter what became of the Falls?

Mr. BROWN. As purely a question of legal right, yes, sir; no matter what became of the Falls. Now, I am going to put into the record the summary of a 90-page argument on this point.

The CHAIRMAN. The reporter will incorporate it in the record.

Mr. BROWN. I want this printed as my summary of the law at this point:

LAW AS TO RIPARIAN RIGHTS—LIMITATIONS OF FEDERAL CONTROL—LIMITATIONS OF STATE CONTROL—PROPOSITIONS STATED AND LEADING CASES CITED.

Rules of law as to Federal control.

1. That the authority for Federal control of fresh navigable streams and waters in the United States, which at the same time defines and limits such control, arises solely from that power which has been expressly reserved to the United States by the Federal Constitution—the power to regulate commerce between the several States and foreign nations.

2. That this power of control was expressly reserved to the Federal Government by the States originally adopting the Federal Constitution and by all States since admitted under that Constitution; and, subject to this specific power so reserved in the Federal Government, there has passed over to those States, upon their entry into the Union, all powers and interest, whether of ownership or of control, now or formerly belonging to the Federal Government, in the beds and waters of such navigable streams, and the Federal Government has since retained, and still retains, either as against any claim by a State or by an individual riparian, or both, only the specific paramount right of control for the specific and limited purpose of commerce—that is, of navigation. Moreover, this Federal power of control is purely a sovereign power of control for a specified public use, and does not include, and can not be extended to, any element of a proprietary right or interest.

3. That, subject to this purely sovereign right of control of navigation, all right, title, and interest, sovereign and proprietary, belongs to the States or to individual riparian owners, or both; and it is not within the Federal authority or power, either judicial or legislative, to fix or determine, as between a State and an individual owner, the limitations between State and individual ownership or control of water powers. The rights and obligations, as between a State and an individual owner, are fixed by the law of property as established by the decisions of the State supreme court in the State in question. This law of property, as so fixed in any State, is, as to streams in that State, binding upon the Federal Government and its Supreme Court.

Rules of law as to State control and as to vested property rights of riparian owners.

1. The title and power of control by the State over the beds and waters of navigable streams are not in any degree proprietary in nature or extent. They are limited to a holding in trust as a sovereign for the specific purpose of protecting a public use, to wit, navigation and certain allied public uses.

2. The title and the power of the State are subject only to the Federal paramount power of control as established and defined as above demonstrated. They are limited also by the private proprietary right of the riparian as fixed by the law of the State.

3. The private riparian owner owns and retains all and the only proprietary title, right, and interest, either to the beds and waters of such streams or to the usufruct thereof. He has the proprietary right to the beneficial use of the flow of the waters in connection with the natural head and fall upon or opposite his riparian land and to the whole thereof; he has a proprietary right to utilize the bed and waters for the development of power and for the operation of water-power plants. This right belongs to him *jure naturæ*—that is, because it is a natural resource and right belonging to and appurtenant to his riparian land and a part thereof. And this private proprietary right is subject only to the sovereign right of control by the Federal and State Governments for the public use of navigation.

4. As between the State and the riparian owner, the sovereign power of control of the former ends where the proprietary right of the latter begins; and the private right exists up to the point beyond which it would be inconsistent with the specific and limited public right. This private proprietary right of the riparian is the same, whether the title to the bed of the stream, either below high water or below low-water mark, is said to be held by the State or by the riparian. The attempted distinction between the riparian rights, on the basis of the riparian's having a mere easement instead of a title, is, so far as these questions are concerned, purely speculative.

The above rules of law are established by the following leading cases:

Water Power Co. v. Water Board (168 U. S., 358-365); *Hobart v. Hall* (174 Fed. Rep., 433); *Hall v. Hobart* (108 C. C. A. Rep., 343); *United States v. Chandler-Dunbar Co.* (209 U. S., 447); *People v. Mould* (37 App. Div., 35, 39); *People ex rel. Niagara Falls Hydraulic P. & M. Co. v. Smith* (70 App. Div., 543; affirmed, 175 N. Y., 469); *Niagara County I. & W. S. Co. v. College Heights L. Co.* (111 App. Div., 770, 772); *Sweet v. City of Syracuse* (129 N. Y., 335); *Smith v. Rochester* (92 N. Y., 474); *Rumsey v. Rd. Co.* (133 N. Y., 79); *Brookhaven v. Smith* (188 N. Y., 74).

See also decision of Wisconsin Supreme Court (Jan. 30, 1912) in *State ex rel. Wassau Ry. Co. v. Bancroft* (Atty. Gen., 134 N. W. Rep., 330).

Mr. BROWN. The *Chandler-Dunbar* case (209 U. S.) and the New York case of *People v. Smith* (70 App. Div.), above cited, expressly hold that the rules of law above stated apply as well to international-boundary streams as to other streams; and the case of *People v. Smith* expressly holds the riparian rights on the Niagara River at the Falls to be as above stated. These rules of property rights were relied upon by the owners of the power plants at Niagara Falls when they made their original investments and constructed their works with the capacities which have since been maintained.

Such is a summary of the law upon this subject; and it is so well settled that these rules of law are now recognized not only by the

Federal Supreme Court but by the highest courts of every State in which the common-law principles of riparian rights are recognized. This includes substantially all the States lying in whole or in part east of the Mississippi River. It does not include those far western States which never had any law of riparian rights, but where the law of prior occupation or prior appropriation prevails, such as Colorado. Cases from such States are not authority in either Minnesota or New York. The Federal courts recognize and enforce the law of property rights on these questions according as they find the local law to have been established by the courts of the respective States; and the United States Supreme Court has so expressly held in 168 U. S., 358, and other cases. So the Federal court would enforce riparian rights at Niagara Falls as such rights have been established by the New York courts. In passing I would say that the same rules of law prevail in Canada, the only difference between the two countries being that here vested property rights are, through the courts, protected under the Constitution against encroachments by the legislature of either the State or the Nation, while in Canada the Parliament can not be so restrained.

The right that Congress has—now, gentlemen, I talked about this matter before the National Waterways Commission the other day, and one of the gentlemen said: "That is merely your theory, isn't it, Mr. Brown?" So much the less merely my theory, it is the statement of the law that has been made by the United States Supreme Court, and the courts have had this decision before them for years. I demonstrate this proposition as a rule of law, to wit: That the power that the Federal Government has over navigable streams is for the specific purpose of navigation; it gets that power expressly from the clause in the Constitution of the United States giving Congress the power to regulate commerce. It does not own the waters; it does not own the bed; it has no proprietary interests; it has only a right of control in its sovereign capacity for a limited and specific purpose, to wit, for navigation. It is a power simply to prevent unreasonable interference with navigation. That is the law.

Now, then, every bit of interest in or power over these streams and their beds, except this limited right of the Federal Government (this is not my statement; it is the statement of the United States Supreme Court—168 U. S., 385), has passed to and is retained by either the State or individuals, or both, as the case may be; it all belongs to one or the other; and if you want to find where the right of the State, New York, for instance, and the rights of the riparian owners begin and end the Federal Supreme Court says you shall go to the law of property rights of the State as shown by the State decisions. The Federal Government having reserved only the paramount power to control navigation, everything else has gone either to the State or to the riparian owners; and in the determination of how that which is left is or shall be divided between the two neither the Federal Government nor the Federal Supreme Court has anything to say.

Consequently, we have this situation; that if we want to find out what the riparian rights are in New York we go to the New York decisions. Under the law the Federal Government has no more to do with "scenic beauty" than it has to do with the color of my hair.

Mr. DIFENDERFER. You haven't any.

Mr. BROWN. That's right—neither hair nor scenic beauty.
[Laughter.]

Mr. LEVY. Aside from this proposition of navigability, do you think it is affected as a boundary stream?

Mr. BROWN. That is incidental. There is one thing that is certain: If a thing can not affect the navigability of a stream it can not affect the matter of boundary. The matter of boundary is not the question of there being water or there not being water. When the stream as such is the boundary, there international laws fixes the boundary at the thalweg, that is, the deep-water line, but in this case at Niagara Falls it is fixed at a certain line surveyed and described as any line. Suppose the river dried up, is not the boundary there just the same?

Mr. FLOOD. Would not the Government have a right of control over it as a matter of public defense?

Mr. BROWN. If so, then only to the extent that might be reasonably necessary for that purpose.

Mr. LEVY. Mr. Chairman, following up my question: If it should dry up it would still be a boundary, but do you think if Canada or the United States had no treaty as to how much power could be diverted and used—suppose that the United States or the State of New York should give to some power company the absolute right to divert the whole stream over there, don't you think it might bring up the discussion of rights?

Mr. BROWN. It probably would—the question of private rights, international rights, and the right of the United States or New York to attempt such a grant.

Mr. DIFENDERFER. How long have you been the attorney for the companies you are representing here to-day?

Mr. BROWN. I will tell you frankly that as a direct attorney for these companies the first work I did was last fall; but that is not the only experience I have had in these questions.

Mr. DIFENDERFER. I would like to ask you why this question was not brought up in 1906?

Mr. BROWN. Let me say this: It was brought up, and you will read in the report of those hearings much mention of this subject; in the mass of other matter, however, this question was too much lost sight of.

Mr. KENDALL. Then, you hold that if your company was deprived of the right to use that power, if there was any power to deprive you of that right, you could hold that power responsible?

Mr. BROWN. Yes, sir; but we would not have to be compensated for it until we demanded compensation. We are not here demanding compensation, nor demanding at this time recognition of our full rights of diversion. We ask that, up to the treaty amounts, our rights be respected. Now, that being the law of New York, we find in the decision of the appellate division of the New York courts not only these propositions of law supported generally, but these propositions laid down as to this very river at this very point; which decisions have been affirmed by the New York court of appeals. The principles that I have stated are reaffirmed, confirmed; that these companies—not vaguely some companies—but these companies by name acquired their rights to make these diversions by virtue of their riparian ownership, and that those are vested property rights. The question of their naked fee in the bed only going to high-water

mark does not affect that conclusion, because the State of New York holds, not a proprietary interest in the fee, but only an interest in trust as a sovereign to protect navigation; and subject to that, their rights of uses of the waters in the river are just the same as if their fee extended to the middle; and therefore these owners have these rights subject only to the right of the State of New York and the Federal Government to control navigation; and they hold those rights as vested property rights.

Why, gentlemen, some time ago they had assessed one company in New York on the basis that it got its rights to the beneficial use of the water for power by virtue of its riparian rights and that company said, "No; we don't get this by reason of our riparian rights, but by virtue of a special privilege or franchise from the State, which is not assessable"; but the highest courts of New York (70 App. Div., 543; 175 N. Y., 469) said: "No; you get it solely as a property right. It is part of your riparian rights." Now, gentlemen, the United States Supreme Court, in the case of another international boundary stream, has decided these questions the same way. (Note the Chandler-Dunbar case, on the Sault Ste. Marie, 209 U. S., 447.) These cases are all cited in my summary of the law on this point. Gentlemen, I am not here to pound you upon the law, but simply to tell you what rights these companies relied upon. I say they knew what their riparian rights were. Also, out of abundance of precaution (not that they doubted their rights, but as investors they had to borrow money and doubly satisfy those who financed their enterprise), they got patents and grants from the State of New York, by conveyance and by legislative grants, which not only confirmed them in their riparian rights, which they claimed, but also gave to them such rights in the State Park lands next the Falls as were necessary to allow them to make a diversion by tunnels extending below the Falls. Relying then, gentlemen, upon these riparian rights and upon the rights acquired from the State of New York, these people first had a series of investigations made before they started work.

Mr. GARNER. It is 12 o'clock, and I assume there are a number of gentlemen who want to get away. It is important to be on the floor of the House until we get started. We can get away by 1.30.

The CHAIRMAN. We will let Mr. Brown finish.

Mr. LEGARE. Your companies applied to the Secretary of War for a permit subsequent to the enactment of the Burton law?

Mr. BROWN. I do not know whether they did or not, but—

Mr. LEGARE. Well, you are operating now under a permit?

Mr. BROWN. Under this Burton law. However, the fact that we complied with that law does not change our legal rights.

Mr. LEGARE. And those permits are revocable.

Mr. GARNER. I understand your argument now is based upon the conditions existing before the Burton law was passed?

Mr. BROWN. Yes, sir. The position in which these parties were before the Burton law was passed; and I want to show you that these legal rights, or at least the equities of these companies based upon their legal rights, were intended to be regarded and protected by the treaty of 1909.

But are you going to refuse to consider these equities any less than did the Burton Act? Or any less than did the treaty? Will you refuse, at least, to take into consideration the equities of the in-

vestors at the Falls? Are you going to insist on passing an act that is so inelastic that by its very inelasticity it will prevent the rights or equities of these companies from even being considered by the State of New York or the Secretary of War, or by anybody else who may have the power of distribution of this power?

Mr. GARNER. This is a most interesting argument, because upon the legal rights and equities of these companies depends whether or not we shall determine how much shall be generated from Niagara Falls.

The CHAIRMAN. The committee will now take a recess until 1 o'clock.

Whereupon, at 12 o'clock m., the committee took a recess until 1 o'clock.

AFTER RECESS.

The committee met at 1 o'clock p. m.

The CHAIRMAN. You can proceed, Mr. Brown.

Mr. ROME G. BROWN. Gentlemen, to resume, and in order to get the connections: I stated this morning that we were relying upon the law of riparian rights recognized as belonging to people in the situation in which the two American companies were—recognized, not only by the National Supreme Court, but by the legislature and courts of the State of New York, the New York courts being, according to the decisions of our Federal Supreme Court, the courts which fix the rights of the riparian owner.

That law gives to the riparian owner the right to the beneficial use of all the water power, subject only to the right of the State to control for navigation, and all those rights are subject to the paramount right of the Federal Government—not plenary, not unlimited, not to make every prohibition, but, under the Constitution, to control only so far as necessary to prevent unreasonable interference with the navigation of the river.

Let me say here: I have put in for your reference a summary of a 90-page argument on these questions written a month ago. The full argument is too long to incorporate in this record, and I have handed each member of this committee a copy of the complete argument. That argument will convince any lawyer or layman that my conclusions are right.

Relying upon that law of riparian rights and upon those rights which were gotten from the State of New York, including the legislative grant to the Niagara Co., for instance, of the right to divert and use and have the beneficial use of water sufficient to make 200,000 horsepower, the Niagara Co. went ahead to make its construction. This was in the nineties. The Hydraulic Co. afterwards made its construction. Gentlemen, before the Niagara Co. started construction, what further did they do? Now, all this discussion is to show you what was the position of these parties in 1906, when the Burton Act was passed; for you can not very well tell what you want to do with the Burton Act unless you get the situation at that time. Did this company go ahead and construct a 200,000-horsepower plant, disregarding the consideration that they were subject to the rights of navigation? No. I know more particularly about the Niagara Co. than the other company. They

hired outside engineers and made investigations running through four years to determine, so far as experts and engineers could determine, what might be the effect of that development upon navigation, which was really all they had to look out for. But they went further than the law required, and sent for these engineers to tell them what effect it would have upon the scenic beauty of the Falls; and not only that, gentlemen—not only the effect of the diversion of water upon scenic beauty and upon navigability—but also what should be the effect upon the general landscape view; what structures would least mar the beauty of the landscape. They engaged the services of the best engineers and landscape artists in the world—I am speaking now particularly of the Niagara Co.—to determine not only the effect upon the scenic beauty of the diversion of the water itself, but also to determine how best to preserve the scenic beauty of the Falls by making their constructions, their general landscape view, the best to conform with and the least to injure the natural scenic grandeur of the entire locality. They did all that before they turned a shovel of soil.

They found this: That with the Hydraulic Co. using approximately 9,500 cubic feet per second, the plan which they then had in view, and the Niagara Co. using 10,000 cubic feet per second, the navigability of the lake and river would not be affected at all, and the integrity of the river as a boundary stream would not be affected at all. Then the company's engineers, having investigated the question of the effect of the diversion upon scenic beauty, reported, saying:

This would not appreciably affect the appearance of the Falls.

The best landscape artists in the United States, after going over the matter at the request of the Niagara Co., said:

Gentlemen, you have come to us, saying that, whatever your legal rights or legal obligations, you desire to make a structure for the beneficial use of this water power which shall, so far as possible, be compatible with the general scenic grandeur of the Falls. If you put the power house down here, it injures to some extent the landscape. If you improve this way and shorten the head-race or the tailrace, you make your structure so much more injurious to the landscape and scenic beauties; but if you will take your water up from this place, and then from your turbines carry it by a tunnel underground, you will thereby the least possible affect the scenic grandeur of the Falls.

That is what the engineers said. That is what the landscape artists said. What did our people do? Gentlemen, what are the facts? What did our people do? Why, our engineer said:

That is all right. The artists have a great eye for beauty, but they do not consider the sacrifice of water power.

Let me remind you that Mr. McKim and Mr. Millet were afterwards members of the national committee to investigate this very subject. The engineers said:

Here you are going to lose, because you carry the water too far, because you don't put the works down nearer the crest; and because you have done this to preserve scenic beauty you will have to lose some of the head and fall you would otherwise have.

In other words, gentlemen, to cut the story short, in order to take the water around at such a distance from their works, as they were operating above, and discharging below, in order to preserve the scenic grandeur of the Falls, they had to lose use of some of the

available head. And what is the result? That out of a possible head of 190 or 200 feet the Niagara Co. from that time to this spends—wastes, as some say—50 or 60 feet in order to get the water down and around for the sole purpose of preserving scenic beauty; and they have only 140 instead of 190 feet, speaking in round figures.

Why? Because they constructed in a method which at that time was, and ever since has been, the method of operation there which is most consistent with scenic beauty. That is what they did. That is what they were advised, and every single engineering and landscape advice that was given by their engineers and artists has since been confirmed by every investigation of the United States Government survey, which investigations had not then been made.

Under those circumstances they went ahead and made their construction; not to divert water to make their authorized amount 200,000 horsepower, but approximately 100,000 horsepower. The Hydraulic Co. also constructed, not to the full capacity allowed and granted by the State of New York, but with a lesser capacity consistent with preserving scenic beauty. Gentlemen, let me recall right here—I attribute it to a misunderstanding, to a lack of knowledge of the history of this thing—that some person or some member of this committee even, now says—or that even Gen. Bixby says—that if further diversion of water is allowed it should be allowed to the companies in position to get the most horsepower out of every cubic foot of water. Why? When the whole basis of this thing is to preserve scenic beauty? Gentlemen, the Niagara Co. has, mainly for the purpose of protecting scenic beauty, built its plant so that it can only get 140 out of 190 feet available head. You, in legislating to carry out the provisions of a treaty which was entered into solely for the purpose of protecting scenic grandeur are asked to take the water which we say belongs to us, in equity at least if not in law, and distribute it to somebody else who is operating or to somebody else who will construct and operate, comparatively regardless of scenic beauty.

Our very sacrifice for the cause of scenic beauty, our regard for the very thing which was the object of this treaty, is made the basis of discriminating against us and in favor of those who were more selfish and less patriotic than we. Right here note that Gen. Bixby qualifies his statement by saying that his advice for any such discrimination is purely from a technical engineering viewpoint, without reference to the question of scenic beauty. He protests that considering everything, including the equities of the Niagara Falls Power Co., he would not urge any company to be preferred over them. His department in their official report (S. Doc. No. 105, p. 16) says that an allowance to that company to divert an amount sufficient properly to operate their plant to the limit of its present capacity "may be regarded as a simple act of justice." Again, after reviewing the history of the Niagara Falls Power Co. construction, its regard for scenic beauty, and the fact that it had installed to the capacity of 100,000 horsepower (one-half of its right under its grant) and the fact that the 8,600 limit under the Burton Act was not sufficient to run its plant as installed and operated before that act was passed, the same report says (p. 139):

The desirability, as well as the justice, of amending the Burton Act so as to permit the Niagara Falls Power Co. to divert water to the full capacity of its railrace tunnel are plain.

In view of the intimate bearing of this investigation upon the interests of the company, and as an acknowledgment of the helpful cooperation of the company, it is believed to be advisable to furnish the company with a copy of this report and permission to do so is requested.

Under the circumstances stated, the American investors, the Niagara Co. and the Hydraulic Co., prior to 1906 made, completed, and operated their plants—the Niagara Co. to the capacity which has ever since been maintained; the Hydraulic Co. completing its installation, but, as I understand it, not at first operating to the full capacity; but neither of them ever installing or operating to the full amount authorized by their riparian rights and by their grants from the State of New York. The Niagara Co. had regard for scenic beauty. The question of scenic beauty having then been solved by their engineers, has also since been solved in the same way by the Government engineers.

Then, after they had done that, somebody, along in 1904 or 1905, spread an epidemic of agitation throughout the country, and the result was an injustice. It was an agitation that was based entirely upon disregard of the law, on ignorance and disregard of the facts, and let me say, in some quarters, on misstatement of facts. The result was that there came a feeling in Congress that scenic grandeur was in danger and that further diversions should be restrained. Therefore, the Burton Act was passed, and it was passed upon this basis—as shown, not only in its terms, but also in the proceedings that led up to its passage—that these people upon the American side, having made these investments, under the circumstances I have stated, their rights, at least to a certain extent, gentlemen, should be regarded first.

With this explanation, gentlemen, I appeal to you. The people, through you as their representatives, are supposed to have a regard for property rights and for investments made in reliance upon property rights. Upon the Canadian side investments were made, and there was an arrangement made upon the Canadian side with these different companies of which the substantial effect was, that half of the power that was produced upon that side should be reserved for use in Canada. The installations that had been made on the Canadian side did not exceed the amount of 36,000, as fixed by the treaty later, but they were planned for about that amount. Just before the Burton Act was passed these facts were found: That on the American side the plant of the Niagara Co. had been installed with a capacity of about 10,000 cubic feet per second, but at one particular time it was found that that particular company was getting along with about 8,600 cubic feet per second. It was found that that 8,600 cubic feet per second, assuming the use to have been an average use, with other amounts then actually used, made up 15,600, and that with those amounts they could probably run along for a year or two. So the Burton Act fixed 15,600 as a total limit and 8,600 as the limit for any one consumer. It was also thought that if too wide permission for transmission to this side was given to Canada it would encourage diversions on the Canadian side, and that, therefore, that would have to be restricted, and thereby further help scenic beauty. They made the restriction of importation 160,000 horsepower, which is equivalent to the use of about 10,000 cubic feet a second. The Burton Act provided for the negotiation of the treaty. That act of

1906 was intended only as a *modus vivendi* until all questions could be investigated and settled by the Government engineers and a treaty negotiated fixing the limits of diversion, not temporarily on the basis of rough estimate, but permanently on the basis of demonstration. The Burton Act was the best guess that could be made at the time it was passed. Its effect, however, was that what should have been 20,000 was made 15,600 (the total diversion on this side) and what should have been 10,000 was made 8,600 (the limit to one consumer). The companies submitted, at a loss, but because it was supposed to be temporary. The United States engineer tells you that both of these companies have observed the limits and obeyed that act right along although it took four years before the treaty was promulgated. Every single finding of the engineers and of the landscape artists of this company, upon the basis of which they had constructed their works, was found by the Government engineers and artists to be right; that with the total diversion of 20,000 feet there was no effect upon navigation or upon the river as a boundary stream, and that there was no appreciable injury to scenic grandeur. Upon the basis of those facts so found, the two countries—Senator Elihu Root acting for this country and Ambassador Bryce for Great Britain—made the treaty of 1909.

What did the treaty do? The very purpose of the treaty was to promote scenic grandeur. It says (Art. V):

It is the desire of both parties to accomplish this object with the least possible injury to investments which have already been made in the construction of power plants on the United States side of the river under grants of authority from the State of New York or on the Canadian side of the river under license authorized by the Dominion of Canada and the Province of Ontario.

The "object" was the limitation of the diversion of waters to protect scenic grandeur. The representatives of these two nations found upon investigation these facts to be true: That under all the circumstances the total diversion of 56,000 cubic feet per second was not too large—that that amount, under all the circumstances, considering the amount that was being taken by the Chicago Drainage Canal Co., was about the proper amount. They further found that the two users upon the American side who had made their investments should have at least 20,000 cubic feet per second—that is, 10,000 for the Niagara Co., 9,500 for the Hydraulic Co., and 500 for another company.

Mr. GARNER. Who gave them that assurance?

Mr. BROWN. It was given them by the facts reported by the Government engineers and International Waterways Commission. It was also found that the hydraulic company had brought their plant up to the contemplated capacity and that in order to operate it on an economical basis it would require about 9,500 cubic feet. You take the 6,500 that the hydraulic company had had under the Burton Act and add 3,000 to that and it makes 9,500. You take the 8,600 allowed the Niagara company under the Burton Act and add to it to the 1,400 and it makes 10,000; there is just the difference between the 15,600 in the Burton Act and the treaty amount of 20,000. That was one of the main considerations of making it 20,000 on this side. It was the main consideration of fixing it down as low as 20,000, because up to that point it was considered that these companies had not only no legal rights, but they had equities. This treaty was made in

1909 and promulgated in 1910. Nobody ever supposed or claimed that the Burton Act was intended as anything more than a temporary measure to govern for the three years necessary to get the information for the basis of a treaty and to make the treaty.

Then after this treaty was made, these companies came in and asked for their rights under the treaty. Several joint resolutions were introduced and amendments were proposed to bring them in line with the treaty, but, on account of a mix-up that always occurs when full hearings are not had, the Burton Act has simply been carried along; and, although the treaty (which was contemplated by the Burton Act to take the place of the temporary provisions of that act) has been made, the Burton Act is still the statute that controls these limitations. As a precautionary measure the Burton Act cast every doubt against the investor. But you now have a treaty made upon investigations which show the results as I have stated; and the proposition now before you is: What sort of a statute are you going to enact to carry out that treaty?

MR. DEFENDERFER. You have referred to the Hydraulic Power Co. Is that known also as the Schoellkopf Co.?

MR. BROWN. Yes, sir.

MR. DEFENDERFER. Is it not true that they have an open canal through which they create their power?

MR. BROWN. I understand that is true.

MR. DEFENDERFER. My reason for asking that was to know whether it would add to the scenic beauty of Niagara Falls to have an open canal.

MR. BROWN. I wish you would discuss that with the Hydraulic people. I represent the Niagara Co. We have no connection or agreement with the Hydraulic Co., but both know the scientific fact that, in order to operate economically under present installations, we need 1,400 cubic feet per second more and they need 3,000 cubic feet per second more. We would have no conflict with them on this question. If you should leave this question to these two companies we would agree.

MR. DEFENDERFER. No doubt.

MR. BROWN. Don't make an act so inelastic that although these companies could come together you would have put it out of their power, or of anybody for them, to make a proper division, and exclude the Niagara Co. without even a chance to present its claims.

MR. GARNER. You speak about the possible inelasticity of the proposed act. Suppose we should go ahead and give you the full power that you are entitled to under the treaty; you would then come in with an additional claim, no doubt, that you had vested interests and could take all the power. What, then, about the inelasticity of the act?

MR. BROWN. Let me call your attention to that. Our works (speaking for the Niagara company, which is now limited to a diversion of 8,600 feet per second), from a time long before the Burton Act was introduced, have been maintained with their present capacity—a capacity well within our legal and equitable rights. For that capacity 10,000 feet is not a maximum but a moderate amount. We have not, since the Burton Act, increased our capacity for the purpose of creating a use for the extra amount that we ask for.

Gentlemen, we do not ask you to put into this act that we should have control of this 4,400 feet more, nor any part of it, because we say that is a detail which you don't want to go into. On the other hand, while not making it so specific as that, we don't want you to make an act so inelastic that we can not go before a proper tribunal and have our equities, at least, considered.

Mr. GARNER. But would it be elastic if we let the Burton Act pass out of existence and then give you a new act allowing you the use of the entire power?

Mr. BROWN. If the proposed act makes any limitations, then, under the circumstances which have been here shown to exist and which now appear in the United States survey reports, it seems to me that the limitations of the act should be the same as the limitations of the treaty.

Mr. GARNER. It would be inelastic, then, if it were coequal with the terms of the treaty; there would not be any change at all.

Mr. BROWN. I see your point. We don't ask to receive all the extra amount. We want, at least, that we should have a chance to be considered in the distribution. There is no doubt that this extra 4,400 feet should be allowed. Now, then, whether it shall be to some new industry or the Niagara Co. in part or alone or the Hydraulic Co. in part or alone, who shall get it, and in what proportions, I say that question should be left, we will say, for instance, to the Secretary of War to determine, after a hearing. By the express terms of the act he should be allowed to take into consideration the legal rights and the equities of the present investors, whatever he shall find them to be, and also, of course, the interests of the public and all interests. I would like to come down to the question of what the proposed act should provide.

The CHAIRMAN. Come down to the legislation before the committee.

Mr. BROWN. The legislation before you, it seems to me, gentlemen, should, in the first place, add 4,400 feet more, so as to make 20,000 feet the total limit on the American side. That is the first proposition. Why? Because it has been shown by the reports of these surveys and stated to you orally on Tuesday by Gen. Bixby as his conclusion that that would not have any effect upon navigation, nor upon the stream as a boundary line, nor even upon the scenic beauty of the falls. It would have no effect—hardly measurable, much less perceptible, on the American Falls.

Mr. GARNER. Would it be possible for the 4,400 cubic feet extra to become the property or right of any other company besides the two that are now operating?

Mr. BROWN. You ask me my present opinion as a pure matter of law?

Mr. GARNER. Yes.

Mr. BROWN. I say frankly, no. Gentlemen, don't misunderstand me. I am only stating that upon which we depended when we made our investment. I am simply reminding you that we had good ground to believe it; that we acted upon that belief, and that we were right; and upon the strength of that I appeal to your sense of justice to consider our equities.

Mr. GARNER. I only ask for information.

The CHAIRMAN. If this committee should vest the power in the Secretary of War or the Public Service Commission of New York to dispose of this water for power, either one of those agencies can dispose of it to whom it desires?

Mr. BROWN. You mean they would have the legal right to do it—give it all to some one else and ignore us?

The CHAIRMAN. Yes; you can put it that way.

Mr. BROWN. As a matter of law, I don't think they would.

The CHAIRMAN. What would you do if they did?

Mr. BROWN. That I can not tell. I know what I would advise. [Laughter.] One thing is sure. Before the power is allotted I would ask for a hearing, and I would go before the commission of New York, or before the Secretary of War, whichever has the say, and knowing the fact that our equities could be considered, I would rely upon the faith that before we got through we would impress those gentlemen with what is right and fair in the matter.

The CHAIRMAN. Have you considered the fact that the Secretary of War can revoke your permit?

Mr. BROWN. The terms of the act so provide; yes, sir.

Mr. GARNER. Before you go from the other proposition, you made a suggestion as to what the provisions of the bill should be, which would be virtually a direction that your companies be given this additional amount?

Mr. BROWN. Not necessarily.

Mr. GARNER. Yes; but if the bill should provide that they shall take into consideration your legal and equitable rights—if a bill contained that kind of a clause, and if I were Secretary of War, I should feel that Congress directed me to give preference to those rights over those of any newcomers; whereas if you left that out, you could still appeal to this commission or to the Secretary of War in an argument based upon your legal and equitable rights?

Mr. BROWN. You see, I wouldn't appeal to men's favor nor to prejudice; I say again we are not here holding the law over you as a threat. I would say to the authority having the power of disposal, "Here are our rights under the law. It is your duty to consider them. In view of all the circumstances, it is fair that the Niagara Co. should be given 1,400 of this 4,400 feet; the Hydraulic Co. can speak for itself." Instead, for instance, of giving it, in terms, back to the State of New York, who have already in advance given it to us, it is more equitable to leave it open, so we may be considered. If the permit were expressly confined to those utilizing the highest head, they might have to give it to some man who comes up here with a \$35,000,000 proposition (on paper) which is only an in futuro dream, and who says, "Until we get our scheme financed, we want to tie up the use of this extra power and prevent its use by those who have already made investments on the faith that they would be allowed enough to operate at normal capacity."

Mr. GARNER. You could do that very easily, Mr. Brown, if the Secretary of War should direct it as he sees best, because otherwise it would be an expression of Congress as to what its views were in the premises.

Mr. BROWN. In general, I agree with you. Now, the point is this: It is impracticable for Congress to determine in advance the exact limits, conditions, or grantees of these permits; but you can deter-

mine the general policy and leave the details to somebody else, so that a proper and equitable distribution can be made.

Mr. GARNER. And it would be more elastic if we did not compel the Secretary of War to take into consideration the legal and equitable rights—

Mr. BROWN. I beg your pardon; I think I intended to state that the proposed act may be too elastic and that it may be too inelastic. Is it no reflection on Congress that, when it leaves a discretion to a certain department or a certain commission, it shall say to that department or commission: "Not exclusively, but besides other things, you shall, in reaching your conclusion, take into consideration the vested property rights under the law and equities, whatever you shall find them to be." Why, gentlemen, that seems to be doing only what the Burton Act did (although inaccurately) and what this country did (but more accurately) in its convention with Great Britain, each country being represented by its most prominent lawyer and citizen. Why should you now, in an act to give effect to that treaty, be less considerate of equities and property rights than is the treaty itself? Less considerate than even the Burton Act?

Mr. DIFENDERFER. If we were to grant this extra amount of power to two of those companies, wouldn't the Niagara Falls Power Co. be the principal beneficiary, in view of the fact that the Hydraulic Power Co. is very limited in point of production and distribution?

Mr. BROWN. Now, as I understand the situation, there is no member of this committee but knows—and I think we can take Gen. Bixby's word for it—there is no worry that these companies will not have a market for all the power they can get. They need all the extra power allowed under this treaty. Four thousand four hundred more will put us where we can operate our plants economically; 1,400 feet puts the Niagara company in proper condition; 3,000, the hydraulic company.

Mr. LEGARE. Who do I understand fixes the amount of water now being used by each company?

Mr. BROWN. The Secretary of War.

Mr. LEGARE. The Secretary of War fixes how much water you shall use and the other company shall use?

Mr. BROWN. Yes, sir; now, I stated the general conclusions as to the effect upon navigability, upon the river as a boundary stream, and upon the scenic beauty, as stated in the reports, made by this 4,400 feet. I have a short statement from the United States Engineers' Reports (S. Doc. No. 105 and H. Doc. No. 246), which I wish to go into the record at this point.

The CHAIRMAN. Yes; put them in the record.

Mr. BROWN. It is as follows:

EFFECT ON NAVIGABLE CAPACITY OF RIVER AND LAKE.

The reports show that the only diversions that need be considered with reference to this topic are those made above the upper cascade of the rapids in the so-called Chippewa-Grass Island pool; that is to say, the diversions of the two American companies and that of the Ontario Power Co. The diversions made by the Canadian Niagara Power Co. and the Electrical Development Co. being below the upper cascade can not possibly affect the level of the navigable portions of the river or of Lake Erie. (H. Doc. No. 246, 62d Cong. 2d session, p. 11.)

The present permitted diversion from the Chippewa-Grass Island pool, assumed to be 19,350 cubic feet per second, is stated to lower the level of Lake Erie 0.07 feet, or about fourth-fifths of 1 inch. (S. Doc. No. 105, p. 12.) Maj. Keller states categorically that this diversion "will not injure nor interfere with the navigable capacity of the Niagara River." (S. Doc. No. 105, p. 12.) The effect upon the navigable capacity of the river of further diversions is stated on page 51 in a table showing the effect of each 10,000 cubic feet per second additional diverted from this pool. The effect at Lake Erie for each 10,000 cubic feet per second diverted is stated to be 0.04 foot. The maximum diversion now proposed from the Chippewa-Grass Island pool is about 32,000 cubic feet per second (20,000 on the American side of the river and 12,000 by the Ontario Power Co.); that is to say, 12,750 cubic feet per second in addition to the amount stated in the report as the amount now permissible. This additional 12,750 cubic feet per second, therefore, will cause a lowering of Lake Erie of 0.05 foot, or about three-fifths of 1 inch.

These predicted lowerings at the head of the river, measured in fractions of an inch, are quite negligible in comparison with the variations of lake level due to nature, which swing through a range of 14 feet. (S. Doc. No. 105, p. 24.)

Now, Gen. Bixby stated to this committee, on Tuesday, the fact—and it is a self-evident fact—that the full amount of diversion allowed on the Canadian side will surely be made within two or three years, whether transmission to this side is allowed or not. The question, then, which interests this committee is as to the effect upon navigability caused by allowing an extra 4,400 cubic feet per second on this side. That extra diversion would manifestly cause a difference of levels of Lake Erie of only about one-fifth of an inch. It therefore is manifest that this extra diversion can not affect navigability.

Indeed, Gen. Bixby stated to this committee that the diversion of the full amounts fixed by treaty on both sides of the river would not appreciably affect navigation.

EFFECT UPON THE INTEGRITY OR PROPER VOLUME OF NIAGARA RIVER AS A BOUNDARY STREAM.

The reports make it quite clear (S. Doc. No. 105, p. 13) that no diversions that have ever been proposed will injuriously affect the river in this regard. (See also H. Doc. No. 246, p. 12.)

The report of the United States engineers, made after most careful investigation, shows therefore that the diversion of the full amounts fixed by the treaty would have no appreciable effect upon the navigability of the stream or of Lake Erie and no effect upon these waters as boundary streams.

It remains to consider the results present and prospective upon the scenic beauty of the Falls.

As to the American Falls, both the reports of 1908 and 1911 show that the diversions are such that "it is doubtful whether the diversion would be appreciable" and "these changes can not be considered as important." (S. Doc. No. 105, p. 14; H. Doc. No. 246, p. 12.)

Again, the only material question here now is as to the effect upon the scenic beauty of the extra diversion of 4,400 cubic feet per second on the American side, for Congress can not limit and the Canadian Government will not limit the amount of the diversions upon the Canadian side below the treaty amounts. Figuring from the data which is given by the United States engineers in Senate Document No. 105, page 53, and House Document No. 246, page 13, and Senate Document No. 105, page 51, a diversion of 4,400 cubic feet per second on the American side would have the following effect:

At the crest of the American Falls, less than one-eighth inch.

At the Goat Island end of the Horseshoe Falls, approximately nine-sixteenths inch.

At the Canadian end of the Horseshoe Fall, less than $1\frac{1}{8}$ inches.

At Lake Erie, approximately one-fifth inch.

These quantities are evidently insignificant, and with reference to the effect of the diversion of an extra 4,400 cubic feet per second Gen. Bixby on Tuesday stated to this committee that the diversion of that extra quantity would have no appreciable effect upon either the American Falls or upon the Horseshoe Falls.

Therefore, the diversion, over which Congress is assuming control, for the preservation of the scenic grandeur—that is, the diversions up to the treaty amount upon this side of the river, and especially the additional amount of 4,400 now asked to bring the American diversion up to the treaty amount, can have no appreciable effect upon the scenic grandeur of either the American Falls or the Canadian Falls.

So I say, gentlemen, so far as this 4,400 feet is concerned, it should be granted to somebody. In other words, the limit of 15,600 feet total diversion upon the American side which is fixed by the Burton Act should be extended to 20,000, as provided by the treaty.

Mr. GARNER. That could be effected by changing the figures in the Burton Act.

Mr. BROWN. Sure; certainly; I could make that change and other changes very easily. [Laughter.]

Now, gentlemen, let us examine the other propositions. The first (already discussed) is to raise that restriction which now deprives everybody, individuals and the public, of the use of 4,400 cubic feet of water per second. The second is to do away with the prohibition upon the transmission of power from Canada. The limitation is now 160,000 horsepower. Mr. Watrous made the statement or inference here the other day that of the 160,000 horsepower allowed to be imported from Canada under the Burton Act they are now permitting only 110,000. Now, gentlemen, I have those figures; and this will be the third insertion I wish to make. It is as follows:

The following permits for diversion have been operative since August, 1907 (H. Doc. No. 246, p. 13):

	Cubic feet per second.
Niagara Falls Power Co.....	8,600
Niagara Falls Hydraulic Power & Machinery Co. (now Hydraulic Power Co.).....	6,500
Lockport Hydraulic Co.....	500
Total.....	15,600

These figures are maximums.

By the same report the following have been the permits for transmission from Canada since August, 1907:

	Horsepower.
Canadian Niagara Power Co. to Niagara Falls Power Co.....	52,500
Electrical Development Co. to certain companies.....	46,000
Ontario Power Co. to Niagara L. & O. P. Co.....	60,000
Total.....	158,500

The same report (H. Doc. No. 246, p. 15) shows that the transmission permit from the Canadian Niagara Power Co. and from the

Ontario Power Co. was practically all transmitted, the 52,500 allowed from the Canadian company being fully transmitted, and about five-sixths of the amount permitted to the Ontario Co. of the 46,000 permitted from the Electrical Developing Co. only 10,000 has been used. This is because of temporary conditions.

Mr. GARNER. The total authorized importation is 160,000 horsepower?

Mr. BROWN. Yes; and the total amount actually permitted is 158,500.

Mr. GARNER. The total amount actually transmitted is how much?

Mr. BROWN. The maximum in June, 1911, was 110,000, the difference being because the electrical company does not use all theirs; but that does not give the other companies the right to import more.

Mr. GARNER. I assume those permits are revocable?

Mr. BROWN. Yes, sir.

The CHAIRMAN. In a nutshell, as I understand it, you are in favor of utilizing the additional power we are entitled to under the treaty; secondly, you are in favor of removing any restrictions upon the importation of power from Canada; third, we would like to know, now, which of these two bills you prefer—the Smith bill or the Simmons bill?

Mr. BROWN. I would like to finish certain points. We are in favor of lifting these restrictions, from the standpoint of business men. When Gen. Bixby spoke to you Tuesday he said: "Gentlemen, the treaty between these two countries allows 36,000 cubic feet diversion upon the Canadian side" (now these are not his exact words, but it is the substance of them). "If you think that by prohibiting the importation of Canadian power you are going to do anything that is directly or indirectly to protect scenic beauty, you are mistaken, because it is not going to have the effect in the end of diminishing what would otherwise be the actual diversion on the Canadian side." Somebody asked the question, "How long—five or ten years?" "No, gentlemen," he replied, "I say if you don't take this restriction off within two or three years, they are going to use every bit of that power on the Canadian side."

Mr. DIFENDERFER. Where?

Mr. BROWN. On the Canadian side. There are industries in Buffalo and on this side which can not be run by electricity economically, because they can not get this power that would be developed on the Canadian side. There is great demand on this side for more power. Industries would immediately take up this power if it is found that the policy of the American Government is to refrain from restriction on importation. They can only import about half of that power, because they have practically agreed to save half of that for the Canadian side.

Mr. DIFENDERFER. You say that power is likely to be used to its limit within the next few years?

Mr. BROWN. I said that Gen. Bixby said it would be within two or three years, and anyone who knows conditions up there knows he is correct.

Mr. DIFENDERFER. For the very reason, as I have stated before, that they can get that power for 12, while on our side the minimum is 29.

Mr. BROWN. Those figures are not correct, but I was going to speak about the rates in a moment. And right here, would it not be a strange thing for a legislative body to come in and interfere in the matter of rates between the consumer and the producer when there is no demand for interference? The only cry from the present and prospective consumers is for more power at the same rates. Have you heard any substantial complaint of inequity or inequality or injustice on the American side?

Mr. DIFENDERFER. It is quite evident that there is a discrimination.

Mr. BROWN. Isn't the man who is taking the power and paying for it the man to kick? And is it not strange that this rate question is not troubling him, but is troubling only outside agitators? The rate question in Buffalo is not an economic question; it is simply one of politics.

Mr. DIFENDERFER. If you take the evidence of the counsel of the city of Buffalo, it looks to me as if it would take \$35,000 to make the kick.

Mr. BROWN. Wait a minute. The city of Buffalo has devoted \$35,000 to have the rates investigated. Is that right?

Mr. DIFENDERFER. That is right—to appease the kickers.

Mr. BROWN. Now, gentlemen, when anybody makes a complaint the party that asks the change has to show the proper facts. And isn't that true before a commission or before a court or before any judicial body? Isn't that true? If somebody says that in the city of Buffalo the rates are high they know it requires an investigation, and it is long and it is expensive; and then there is that other awful item—lawyers' bills.

Mr. DIFENDERFER. Yes, sir; that is an item.

Mr. BROWN. And they have to be paid—at least they have to be incurred. [Laughter.]

Mr. DIFENDERFER. I am glad you make that distinction.

Mr. BARTHOLDT. I should like to ask a few questions. I want to ask for my own information and satisfaction.

Mr. BROWN. You see, I have been drawn off on this question of rates. I am coming to the conclusion that the Congress should not trouble itself about rates.

The CHAIRMAN. In regard to rates, the Public Service Commission of New York can fix them if there is any complaint?

Mr. BROWN. Certainly, sir.

Mr. BARTHOLDT. I am concerned only in the beauty of the Falls. I regard it as the greatest asset of the people of Buffalo; I regard it a very poor investment to detract from it.

Mr. COOPER. Would you amend that by saying "the people of the world?"

Mr. BARTHOLDT. Yes, sir.

Mr. COOPER. At many places in Europe Niagara Falls is the first thing they ask about—"Have you seen the Falls?"

Mr. BARTHOLDT. Now, I want to ask this question. Mr. Brown, the only excuse for the Burton bill was to prevent detraction from the Falls—from the scenic beauty of the Falls?

Mr. BROWN. To protect the scenic grandeur.

Mr. BARTHOLDT. Precisely. Now, was the question, in connection with the treaty between Canada and the United States, of limitation, as fixed in the treaty, considered as satisfactorily answering all possible doubts as to detraction from scenic beauty?

Mr. BROWN. Certainly; yes.

Mr. BARTHOLDT. And also to the extent that the treaty findings were made after very careful investigations by the Government engineers and the National Waterways Commission, and the question of international——

Mr. BROWN. Yes; all those were considered by those who made the treaty.

Mr. GARNER. Doctor, Mr. Brown went over that before you came in.

Mr. BARTHOLDT. Now, is there any law on the statute books of the United States to preserve the beauty of Niagara Falls?

The CHAIRMAN. Nothing but the treaty.

Mr. BARTHOLDT. So that the jurisdiction of Congress is only with regard to navigation, and the other is all sentiment?

The CHAIRMAN. Yes.

Mr. LEGARE. I understood Gen. Bixby to say it would be imperceptible.

Mr. BARTHOLDT. We are naturally interested in preserving the beauty of the Canadian side as well as the American side.

Mr. BROWN. So far as the 4,400 feet is concerned, it is practically imperceptible in the length of the Falls. If you take the entire amount of diversion, you have only 4 inches less depth on the American side of the Horseshoe Falls and 9 inches less on the Canadian side.

Mr. BARTHOLDT. But Gen. Bixby said that amount would be total?

The CHAIRMAN. That is on the Horseshoe Falls side.

Mr. BROWN. But remember this thing. The United States has power only to protect the American side. When the two countries have got together and said that Canada may take 36,000 and we may take 20,000 feet, is there any reason why we should say: "You Canadians over there are not doing anything to protect scenic grandeur; we will take care of that by refraining from exercising our privilege under the treaty and by restricting importation to our side, so as to force industrial development on your side at the expense of American interests which are now ready to use the power." We know the Canadian companies are going to take the 36,000 feet. We know that it can not hurt in any degree that is sensible to the eye. Now, the extra amount on this side is 4,400 feet, and the Canadians have only to add 15,000 to get their allotted amount. Are we going to hang back until they utilize their last foot and lose this vast power forever? Is it wise, gentlemen, when the Canadians are going to divert their entire 36,000 feet and when the whole amount is, for all practical purposes, not sensibly injurious to scenic beauty?

Now, gentlemen, while I am more than willing to answer all your inquiries as best I can, your questions often anticipate points which I have in mind to cover later and thereby cause diversions, which, in this instance, I frankly admit are injurious; they injure the continuity, and hence the scenic beauty, as well as the boundary lines, of my argument. [Laughter.] Now, before I come to the questions of rates, I wish to emphasize further the objections to any restriction upon importation. It is clear, from what has been shown, that discouragement of importation can not serve any public interest. It can not help to preserve navigation, nor any boundary line, nor help military defense, nor help to preserve scenic beauty. On the contrary,

it is positively repugnant to both our public and private interests. That country will permanently enjoy the advantage of this as yet unused power which first preempts it by actual use. The next year or two is to decide this question and the decision depends upon the fact of whether you continue provisions prohibitive or restrictive of importation. It is clear, then, that any such restrictions are bad policy. Even from an American viewpoint alone, the interests of this country and of the people of the State of New York demand that we should get hold of this power as quickly as possible. But there are other objections which are conclusive against any attempted restriction or prohibition by act of Congress. I refer to the legal objections. This special and localized prohibition which is suggested is arbitrary and unreasonable. It does not treat all citizens alike in regard to the same subject matter. It is a special restriction imposed for the mere purpose of asserting the power of restriction. There is no demand for it, there is no need for it. No one appears here to advocate it, except the representative of that association of self-appointed guardians of a theory prevalent 8 or 10 years ago, but which theory has been exploded by the careful surveys and reports of the War Department; and the Chief of Engineers now tells you that if this restriction is not removed immediately this country will lose forever the use of this power, and that such restriction will not, in any degree, limit the total diversion at the Falls.

But, what is even more important, any prohibition of or restriction upon importation is contrary to the spirit and terms of the treaty of 1909, by which this country and Great Britain agreed upon the limitations to be allowed by either country with respect to the use of power at Niagara. All these questions, including that of importation, were discussed and passed upon. It was decided that it was neither necessary nor expedient to restrict importation, and such restrictions were omitted from the treaty. That treaty spoke the promise and policy of each country to the other. Each country said to the other that Canada might divert 36,000 feet; that we might divert 20,000 feet per second, and with those amounts as a maximum each country might fix limits on its own side, but that in every other respect the rights and privileges and opportunities of each country should be left free. The idea was that the Canadians could use their 36,000 feet to supply a demand wherever they might find it; and the American market was in mind. By a prohibition or restriction upon importation of power from Canada to this side we assert the right not only to control amounts of diversion upon this side but also upon the Canadian side. We deprive the Canadian investors of the market with reference to which the treaty was made. For Congress, after the treaty, to attempt to control or restrict the intended use by the Canadians to their share of the total diversions allowed (as by restricting importation) is not keeping good faith with the other party to the treaty. It is an invasion of the rights of Canada and of the Canadian investors, contrary to the treaty.

Developments and construction proceeded upon the Canadian side on the theory that the demand for power on the American side might be freely supplied by Canadian investors. This proposed legislation is for the purpose of carrying out the treaty provisions, to give effect to the treaty in so far as legislation is required. Importation should be free, therefore, not only because it is wise and consistent with the

treaty, but also because any prohibition or restriction upon importation would be repugnant to the spirit and terms of that treaty.

Mr. COOPER. Mr. Brown, I don't want to "divert" you, but I would like to have your opinion as a lawyer, if you are willing to give it to this committee as such, as to the power of Congress to regulate rates. I am sure that question is going to be discussed in the House, and, realizing your ability as a lawyer, I would like very much to get your opinion.

Mr. BROWN. Now, I want to stick a pin right there, because that is my very next proposition.

Mr. COOPER. I am glad to hear that.

Mr. BROWN. You mean a regulation of rates in connection with a restriction upon importation or upon the use of the extra 4,400?

Mr. COOPER. In both instances.

Mr. BROWN. Well, let us take importation. I say the importation restrictions should be removed, and there should be nothing said about tariff, rates, tolls, or other restrictions. That is a legal and business like proposition. Now, in this instance you could not justify a charge on the ground of a tariff. Congress can not say that potatoes brought over the boundary line at one place should be subject to a charge to which the same goods brought over the same line at a point 100 miles away would not be subject. The control of the tariff is not an arbitrary one.

Now, "toll" comes out of something of ownership. Now, no lawyer would say that either the United States Government or the States owned the waters. Nobody owns the waters; the riparian owner does not own it; he owns the use of it, the right to use it; the Government does not own the waters, but it has only the right to prevent unreasonable interference with navigation. There is no basis for any charge based on Government or State ownership.

Mr. Difenderfer said the other day: "Aren't they going to pay for this water that we are giving them?" Why, as a lawyer, I would say: "In the first place, you don't own the water. In the next place, you don't give it to them." Why? Because the right to its use belongs to the riparian owners. Neither the Government nor the State of New York has any ownership of the water itself, and neither could impose a toll or charge for its use.

Next, can the Government of the United States regulate the rates? I say, "No," for two reasons: In the first place the United States has no power to regulate rates within the State of New York. That power can not be based on any power to regulate scenic beauty, even if the latter power existed in Congress. But it does not. If the Government of the United States has the right to regulate the waters at Niagara to protect scenic beauty—much more, if it has a right to prohibit on the ground of preservation of scenic beauty—then every water power upon a navigable stream in the United States, every waterfall, which proportionate to its size and character has value as a feature of the landscape, can be prevented from being used for water power on the ground of preservation of scenic beauty.

Mr. COOPER. Has the United States any right to prevent importation of power from Canada?

The CHAIRMAN. Well, it has done so.

Mr. COOPER. I am speaking about rights.

Mr. BROWN. That is a tariff question. It is a commerce question. We say "Yes," if it is general. But do you suppose this is the only locality where power is being imported?

Mr. COOPER. No; but it would seem to me that they would have the right also to name the conditions under which they shall grant the permit.

Mr. BROWN. Has the Congress of the United States a right to say that Jim Jones shall not, at the town of Smithville, on the line, bring across daily 10 barrels of potatoes to this side of the line?

Mr. COOPER. That is not a parallel case.

Mr. BROWN. But that is what they are doing here. Now, if you have a general law which applies to all people equally, then it becomes a tariff proposition. Gentlemen, I am not trying to ram that proposition down your throats, but I am simply trying to tell you to pass that for a moment and listen to the equities of the question.

Mr. COOPER. Suppose in passing a statute of that kind just the naked law would provide for the regulation and there would not be in the statute any statement of the motives of the legislator, whether it was for scenic beauty or whether it was a matter of discretion in carrying out its power under the commerce clause. Courts don't inquire into the motive; if the law is constitutional it stands.

Mr. BROWN. I would not say "Yes" unqualifiedly. I would say they hesitate to do so, but when they find a ground which is apparently unconstitutional and illegal they set it aside.

Mr. COOPER. If, on the other hand, the law is not on its face absurd and ridiculous, but could be fairly interpreted as carrying out the commerce clause, or navigation, the court will sustain it upon this proposition: That a law shall not be set aside unless it is unconstitutional beyond a reasonable doubt?

Mr. BROWN. Yes, sir; that is the tendency under the law. Now, then, you and I won't differ on that; but notice how I want to appeal to your sense of fairness and right, and I am not hypocritical. The Burton Act upon its face shows that it was an act by the United States Government to protect scenic beauty. The treaty upon its face and by the terms in which it was drawn says it was made solely with reference to scenic beauty. That act and that treaty were frank in expressing their objects. The engineers of the United States have told you that there is no practical ground why you should legislate on the ground of protecting navigability or boundary streams, and the only ground anyone ever claims here is scenic beauty. Indeed, the only purpose of this proposed act is to carry out the treaty. Now, if I should hear a gentleman on the other side of the argument say to you: "Mr. Cooper, the Burton Act was not sharp and shrewd enough. As a matter of fact, there was no ground of legislation except to protect scenic beauty, but they gave this away on the face of the act. Then, when they came to the treaty, they fell down, too. There was no sufficient ground, in law or in fact, based on scenic beauty; but they gave themselves away. Now, beat them. Get up a law that will enable us to get something that is in fact unconstitutional, but which may be made to appear to the courts as otherwise, by concealing its effect and object." If anyone should tell you that, I should say that he is not honest and he has asked you to do something that is not honest; and I don't believe that this committee of Congress will recommend to the House to do what no man who is not dishonest would do. Am I clear?

Mr. COOPER. You are pretty pointed, though.

Mr. BROWN. Absolutely, now, I did not mean anything personal. I appreciate the fact that you were merely speculating about possibilities.

Mr. COOPER. That is all right, but I had in mind the tax on State banks, to get revenue and for other purposes; but on the face of it it was unconstitutional and the motive of the legislator was for the purpose of smashing the State banks. On the other hand, take the oleomargarine law, and the preamble of it. Everybody could see it was not for revenue; it was simply to make it very embarrassing for the oleomargarine people to do business and to compel them to state what their article is. Now, then, Congress passed a law—no, two laws, and they were attacked and went to the Supreme Court. The arguments of counsel were that the motives of the legislator were unconstitutional. The court said they did not have the right to consider the motives, and so they sustained them both. So in this particular case, if we should pass a statute and leave out the mention of scenic beauty and control that, in the exercise of our discretion under the powers granted by the Constitution, would it be unconstitutional?

Mr. BROWN. I can not tell what the result would be, but I hope mighty well it would be declared unconstitutional.

But why this seeming anxiety at times to get around the constitutional barriers which are intended to protect property rights? Why, in Canada, where there are no constitutional limitations to legislation, and where Parliament may, if it chooses, diminish and even destroy private property rights and investments, and where the courts have not the power to declare a legislative act invalid, once it should be seen that the effect of any proposed legislation was to take away such rights, especially after investments made, no committee of Parliament, nor Parliament itself, would consider it with favor for a moment. But here in this country we have express constitutional prohibitions against legislation, the enforcement of which would impair contracts or injure or destroy property rights, or discriminate between citizens of the same class, and we have a judiciary whose privilege and duty are to see to it that no legislation, State or National, which is repugnant to such express prohibitions shall be enforced. Why, then, should we, before a committee of our national Congress, be trying to solve the puzzle of how Congress might do something indirectly which it is confessedly not within its powers to do directly? Why this anxiety, disclosed before a body of men here who are sworn to protect the Constitution and laws of this Nation, and property rights established under those laws, to get around the Constitution and the courts in order to legislate against or regardless of vested property rights? And this, too, with reference to the rights of investors who do not ask for the protection of their full legal rights, but only to the extent of about one-half—that is, to the extent that investments and installations have already been made! Indeed, they do not ask you in this proposed legislation expressly to protect even that remnant of their right. We ask only that you shall not so legislate as, in terms, to prevent a fair consideration of our rights and equities in connection with the distribution of this water power. May I close, please?

The CHAIRMAN. Yes, Mr. Brown; and I trust you will be allowed to proceed.

Mr. LEGARE. I do not understand you to contend that we are without authority to prohibit the importation of power?

Mr. BROWN. I would not say that, if it is general.

Mr. LEGARE. Now, then, the other question that was asked you: If we have the power to prohibit importation, why have we not the power to put restrictions upon it? I am asking you this question because we want to be in a position to answer questions in the House.

Mr. BROWN. Now, I have not investigated these questions much, but my opinion as a lawyer is that, with general importation restrictions, proper conditions may be attached; but, taking the facts of the case here, the only purpose could be to protect scenic beauty, and the restriction on importation is a special and local one. But, gentlemen, even at that, we, the Niagara company, say this: That if you will only leave the rates to the State commission or the proper body in New York and give us a chance to be heard, the question will be decided on the facts, which you can not sift out here, and our equities and rights will have a chance to be preserved. Now, gentlemen, give us some chance of relief, if we shall show we are entitled to it, and place the limit of diversion allowed to any one company at 10,000 instead of 8,600. There should be no restriction upon importation. More than that, the amount fixed by the treaty is not a diversion of 20,000 cubic feet in any one second; it is a diversion by the day at the rate of 20,000 feet per second. Do you see the difference?

A MEMBER. A good deal.

Mr. BROWN. Suppose the 20,000 feet were all granted to one company. Under the Burton Act provisions that company could only divert for any one second that amount, although the average for the day was much less.

You know how factories are run; you know what the peak of the load is in one day. You know this: That, so far as affecting Lake Erie and the river for scenic beauty, the variation of two or three hours can not at the end of the day have any practical effect. The treaty says that the diversions shall be "not exceeding a daily diversion at the rate of 20,000 cubic feet per second." The present permits are granted on the assumption that it is a limit of 20,000 feet in any one second. So far as it affects these other conditions of general public interest, it does not amount to anything, but it does hamper the efficient use of the power plants.

Mr. COOPER. Now, suppose you only took 40,000 a second for half a day, and the other half of the day you shut up; what would be the average?

Mr. BROWN. The largest part of this power is 24-hour power.

Mr. BARTON. Most of it.

Mr. BROWN. Mills and factories to-day do not shut up in the night-time; they are working all the time. They work longer hours where they can get more and cheaper power; but it happens that about 5 or 6 o'clock the peak of the load comes up—only slightly in this case. But the treaty provisions are in daily diversions at the rate of 20,000 cubic feet per second.

May I suggest that the act should substantially contain what is contained in this proviso, which reads as follows:

That in fulfillment of the purposes of Article V of said treaty the several amounts of water of the Niagara River within the State of New York above the Falls which may be diverted under the said act or under permits of the Secretary of War in pursuance thereof shall be limited only so that the total

diversion within the State of New York of the waters of said river above the Falls of Niagara for power purposes shall not exceed in the aggregate a daily diversion at the rate of 20,000 cubic feet of water per second, and that the Secretary of War shall have authority from time to time to grant revocable permits for such daily diversion in several amounts not exceeding in the aggregate said 20,000 cubic feet per second, nor to any one individual company or corporation, as aforesaid, a maximum amount at the rate of 10,000 cubic feet per second; such grants to be made and continued only with due regard to the rights of the State of New York and its grantees in said waters of said river, and so that no monopoly shall be thereby created or continued: *And provided further*, That the quantity of electrical power which may by permits be allowed to be transmitted from the Dominion of Canada into the United States may and shall be any and all of the power by said treaty authorized to be developed within the Province of Ontario from said waters of said river that shall not be used or be required for use in the Dominion of Canada.

And may I ask also to put in a statement by Mr. Philip P. Barton and Mr. Egbert, which is substantially a summary of the principal points contained in Senate Document No. 105 and House Document No. 246—a summary for convenience—and ask that it be printed and made a part of the record?

The CHAIRMAN. Let it be printed.

Mr. BROWN. And this is drawn up by Mr. Francis Lynde Stetson, of New York, a director and stockholder of this company. Some time ago he wrote these five or six pages, which show the righteousness of some of these provisions just suggested. Might I ask that they be put in the record?

The CHAIRMAN. Yes; it will be printed, Mr. Brown.

Mr. BROWN. And, Mr. Chairman, may I ask this: If I think of anything else, may I put it in writing and send it in and have it made part of my statement in the printed record?

The CHAIRMAN. Yes.

The papers—Barton, Egbert, Stetson—offered and received into the record next follow:

SUMMARY OF REPORTS PUBLISHED IN SENATE DOCUMENT NO. 105, SIXTY-SECOND CONGRESS, FIRST SESSION, AND IN HOUSE DOCUMENT NO. 246, SIXTY-SECOND CONGRESS, SECOND SESSION.

(By Mr. P. P. BARTON.)

(1) So far as practical effect upon the scenery and navigability of Niagara River is concerned, the question now before Congress, when properly stated, is shown by these reports to be small and insignificant.

The question divides itself into two parts:

(1) Shall restrictions on transmission of power from Canada into the United States be removed?

(2) Shall limitation of diversion of water on the American side of the river be extended from 15,600 cubic feet per second to 20,000 cubic feet per second?

So far as permanent effect upon the river is concerned, it is obviously immaterial whether Congress answers the first question in the affirmative or in the negative. By the terms of the treaty 36,000 cubic feet per second may be diverted on the Canadian side of the river, and very soon that amount will be there diverted. Congress can not prevent this. Canada not only permits it, but by Government aid encourages and promotes it. All that Congress can do by restricting importation is to deprive American citizens of the beneficial use of power generated in Canada, which, if not utilized promptly in the United States, will be forever withdrawn by Canada. Five years ago it was estimated that a market for 50,000 horsepower would be found in Canada within transmission distance of Niagara upon completion of transmission lines (Hydro-Elec. Power Com. 1st Report, 1906, p. 7); to-day, with transmission lines not yet completed, the Province of Ontario is using nearly 90,000 horsepower from Niagara, and yet the markets estimated in 1906 are not half supplied.

As Canada surely will use its entire quota of diversion, it is evident that from the point of view of effect on the river the question of restricting importation of power may be eliminated from the discussion.

To determine the practical effect on the river of its answer to the second part of the question, Congress must ascertain the results of a diversion of 4,400 cubic feet per second from the Chippawa-Grass Island pool. The reports indicate these results with the utmost exactness.

In Senate Document No. 105, page 53, the lowering of the crest of the American Fall for 5,600 cubic feet per second diverted from above the uppermost cascade is stated to be twelve one-thousandths foot. A diversion of 4,400 cubic feet per second, therefore, would result in a lowering of not more than

$$\frac{0.012 \times 4400}{5600} = 0.00943 \text{ ft.} = 0.113 \text{ in., or less than } \frac{1}{8} \text{ of an inch.}$$

In House Document No. 246, page 13, the lowering at Terrapin Point is stated to be eleven one-hundredths foot and at the Canadian end of the Horseshoe Falls to be twenty-seven one-hundredths foot for each 10,000 cubic feet per second diverted. A diversion of 4,400 cubic feet per second accordingly would produce at Terrapin Point a lowering not more than

$$\frac{0.11 \times 4400}{10000} = 0.0484 \text{ ft.} = 0.5808 \text{ in.} = \text{approximately } \frac{1}{2} \text{ of an inch,}$$

and at the Canadian end of the Horseshoe Falls a lowering not more than

$$\frac{0.27 \times 4400}{10000} = 0.1188 \text{ ft.} = 1.4256 \text{ in., or less than } 1\frac{1}{4} \text{ in.}$$

In Senate Document No. 105, page 51, the lowering at the head of the river (Lake Erie) is stated to be four one-hundredths foot for each 10,000 cubic feet per second diverted from above the upper cascade. A diversion of 4,400 cubic feet per second, therefore, would produce at Lake Erie a lowering of

$$\frac{0.04 \times 4400}{10000} = 0.0176 \text{ ft.} = 0.2112 \text{ in., or approximately } \frac{1}{4} \text{ of an inch.}$$

Recapitulating, we find that a diversion of 4,400 cubic feet per second is reported to have the following effects:

	Inches.
At the crest of the American Falls, less than.....	$\frac{1}{8}$
At the Goat Island end of the Horseshoe Falls, approximately.....	$\frac{1}{2}$
At the Canadian end of the Horseshoe Falls, less than.....	$1\frac{1}{4}$
At Lake Erie, approximately.....	$\frac{1}{4}$

These are the quantities, and the only quantities, that can be really affected by the legislation now before Congress. That they are utterly insignificant and negligible when contrasted with the industrial benefit that will accrue to the country by permitting an additional diversion of 4,400 cubic feet per second and by removing restrictions on importation of power is made obvious by merely stating them.

2. EFFECT ON NAVIGABLE CAPACITY OF RIVER AND LAKE.

The reports show that the only diversions that need be considered with reference to this topic are those made above the upper cascade of the Rapids in the so-called Chippawa-Grass Island pool; that is to say, the diversions of the two American companies and that of the Ontario Power Co. The diversions made by the Canadian Niagara Power Co. and the Electrical Development Co. being below the upper cascade can not possibly effect the level of the navigable portions of the river or of Lake Erie. (H. Doc. No. 246, 62d Cong., 2d sess., p. 11.)

The present permitted diversion from the Chippawa-Grass Island pool as summed to be 19,350 cubic feet per second is stated to lower the level of Lake Erie seven one-hundredths of a foot or about four-fifths of 1 inch. (S. Doc. No. 105, p. 12.) Maj. Keller states categorically that this diversion "will not injure nor interfere with the navigable capacity of the Niagara River." (S. Doc. No. 105, p. 12.) The effect upon the navigable capacity of the river of further diversions is stated on page 51 in a table showing the effect of each 10,000 cubic feet per second additional diverted from this pool. The effect at Lake Erie for each 10,000 cubic feet per second diverted is stated to be four one-hundredths of a foot. The maximum diversion now proposed from the Chippawa-Grass Island pool is about 22,000 cubic feet per second (20,000 on the American side of the river and 2,000 by the Ontario Power Co.); that is to say, 12,750 cubic feet per second in addition to the amount stated in the report as the amount now permissible. This additional 12,750 cubic feet per second, therefore, will

cause a lowering of Lake Erie of five one-hundredths of a foot, or about three-fifths of 1 inch.

These predicted lowerings at the head of the river measured in fractions of an inch are quite negligible in comparison with the variations of lake level due to nature, which swing through a range of 14 feet. (S. Doc. No. 105, p. 24.) The regulating device, which it is understood will be recommended by the International Waterways Commission to prevent the recurrence of low-water stages of Lake Erie due to nature, will obviously counteract completely any possible lowering of Lake Erie or of the navigable part of the river due to diversions at Niagara. (S. Doc. No. 105, p. 52. Int. Waterways Com., 7th progress rept., pp. 7-8.)

3. EFFECT UPON THE INTEGRITY OR PROPER VOLUME OF NIAGARA RIVER AS A BOUNDARY STREAM.

The reports make it quite clear (S. Doc. No. 105, p. 13) that no diversions that have ever been proposed will injuriously affect the river in this regard. (See also H. Doc. No. 246, p. 12.)

4. EFFECT ON SCENIC GRANDEUR.

On this topic the report presents in confusing quantities measurements, deductions, diagrams, and photographs designed to show not merely the effects of power diversions but also the far more dominant effects of other agencies upon the appearance of the Falls. Statements of fact are interspersed with statements of opinion. It is easy for a cursory reader to infer that aggregate effects due to several causes are mainly due to power diversions whose effect alone in reality is comparatively negligible. Separating out by themselves the figures reported as the effect of present diversions, we find that a present diversion of 19,350 cubic feet per second above the upper cascade, together with the diversions made by the two Canadian plants with intakes below the upper cascade, are stated to result as follows (S. Doc. No. 105, p. 14):

	Inches.
Lowering of the crest of the American Falls at Prospect Point, fifty-two one-thousandths of a foot equals.....	$\frac{1}{2}$
Lowering at Terrapin Point, twenty-one one-hundredths of a foot equals....	2 $\frac{1}{2}$
Lowering at west end of Horseshoe Fall, seventy-two one-hundredths of a foot equals.....	8 $\frac{1}{2}$

These figures are presented as statements of fact. With these figures as a basis, Maj. Keller states his opinion (S. Doc. 105, p. 14) "that existing diversions have already seriously interfered with and injured the scenic grandeur of Niagara Falls at the Horseshoe." This statement is paraphrased in the 1909 report of the Chief of Engineers (p. 940) in the widely quoted statement, "As a whole, the Falls have unquestionably been seriously injured by the diversions already made. Additional diversions now under way will add to the damage." It is evident that these statements of opinion have been influenced mainly by the effects reported at Terrapin Point and at the Canadian end of the Horseshoe Fall. The photographs of the American Fall show no sensible differences in appearance resulting from far greater variations in river discharge than are proposed under the treaty restrictions of diversion, and the reports explicitly state that at the American Fall changes are inappreciable and unimportant. (H. R. Doc. 246, p. 12; S. Doc. 105, p. 14.) The most potent agency permanently affecting the ends of the Horseshoe Fall is the recession at the apex of the Horseshoe due to natural causes. The unwatering of the Canadian end of the crest of the Horseshoe Fall from this cause prior to any Canadian power diversions had progressed so far that in 1902 the Canadian park commissioners caused 250 feet of the former crest line at that time unwatered to be filled in for the purpose of improving the scenic effect of the Horseshoe Fall by obliterating certain thin streams which existed only at times of high water. Terrapin Point, owing to the continued recession of the Horseshoe, is approaching the same condition, and unless artificial means are provided for restoring the flow a part of the crest line in the vicinity of Goat Island in a few years will become dry, entirely irrespective of power diversions. With such conditions existing at the ends of the Horseshoe a very slight change in the regimen of the river from any cause produces perceptible effects at these points, but the proposition that the Falls as a whole are seriously injured by the comparatively slight changes due to power diversion is one to which few fair-minded

persons who are familiar with the Falls will describe. Whatever the effects from all causes may be, they may be offset, as pointed out by Maj. Keller (p. 15), by placing a submerged weir in the bed of the river immediately above the Horseshoe Fall.

The conclusions as to effect on scenic grandeur, stated in the reports contained in Senate Document No. 105, must be regarded as superseded by the statements contained in the later report of Lieut. Col. Riché, dated September 30, 1911, and printed in House Document No. 246, Sixty-second Congress, second session. This report summarizes and brings down to date the earlier reports. Whether or not the figures that it contains are substantially confirmatory of the figures given in the earlier report, it is certain that the expressions of opinion are more guarded and less sensational. Thus Col. Riché points out (H. Doc. 246, p. 13) that out of a total lowering of 20 inches at the Canadian end of the Horseshoe Fall reported for 1911, more than 6 inches is due to natural recession at the apex of the Horseshoe since 1906; about 8 inches is due to power diversions, and over 5 inches is due to deficiency in rainfall in the watershed supplying Lake Erie. The scenic effects of these aggregated causes are described as (1) "An appreciable decrease in the volume of flow;" (2) "Interference with the continuity and length of crest line unquestionably marring the natural beauty of this cataract." The statement is then made that "Natural causes have been chiefly instrumental in effecting these changes," but that artificial diversions of the power companies "have materially added to the injury or interference with the scenic grandeur of Niagara Falls." The report thus states categorically that the changes alleged to have occurred in the appearance of the Falls are mainly due to natural causes. It appears to be exceedingly doubtful whether in the absence of natural causes the effects due to power diversions alone would be sensible "even to the eye of a trained engineer," although it is claimed that they are susceptible of measurement, and it is certain that nature herself is the dominating agency "marring the natural beauty of this cataract."

5. CERTAIN STATEMENTS COMPARED.

(See tabulation "Exhibit B.")

There seems to be some discrepancy between the results predicted in 1908 and those reported in 1911, which the Government engineers probably could explain. In Senate Document 105, page 14, it is pointed out that in 1895 there was an extremely low stage of Lake Erie, due to deficiency of precipitation, which condition, it is stated, "is sure to recur." A very exact prediction is then made of the conditions that will exist at the crest of the Falls with such a low stage of Lake Erie. It is stated that at Terrapin Point there will be a lowering of 5½ inches, due to deficiency of precipitation, which, added to 2½ inches attributed to power diversion, will make a total lowering at Terrapin Point of 8 inches. At the west end of the Horseshoe Fall there is predicted a lowering of 14 inches, due to natural lowering of the lake, which, added to 8.6 inches attributed to power diversions, will make a total of 22.6 inches (stated as "nearly 2 feet"). From the tabulation herewith, marked Exhibit A, it will be seen that the monthly mean levels of Lake Erie during the current year 1911 have approximated very closely those of 1895. In some months they have been lower than in 1895, the average of the monthly means for the year being very slightly higher than in 1895. It appears, therefore, that the predicted causes have materialized, but the results do not seem to correspond with those predicted; thus, in House Document 246, page 13, the figures of lowering reported at Terrapin Point for 1911 are only 5.48 inches, as against over 8 inches predicted, while at the west end of the Horseshoe Fall the figures reported for 1911 are 8.6 inches due to diversions, and 5 inches due to deficiency in rainfall, making a total of 13.6 inches, instead of the "nearly 2 feet" predicted. In 1911, however, there is reported a further lowering at the west end of the Horseshoe Fall of 6 inches, attributed to recession of the apex of the Horseshoe since 1906. The 1908 prediction was that under the 1911 conditions "many shallow places at both ends of the Horseshoe Fall will become dry." The changes "will result in a mutilated Niagara—one shorn of nearly half its flow and of much more than one-half its natural beauty, since many places now overflowed will be made bare, the crest line broken, and unity of effect will be seriously disturbed." (S. Doc. 105, p. 13.) The language used in the 1911 report to describe the actual results conveys an impression quite different from that created by the prediction. (H. R. Doc. 246,

p. 13.) It is safe to say that spectators of Niagara Falls during the year 1911 would be quite unable to differentiate between the spectacle presented in 1911 and that presented in any other period of corresponding lake levels, except that the recession of the apex of the Horseshoe and the diminution of the thin streams at Terrapin Point, due to that natural cause, might possibly be noted.

6. *Direct reference to the Niagara Falls Power Co.*—(S. Doc. 105, p. 16.) It is here stated that the diversion needed for a maximum profitable use of the existing plant of the Niagara Falls Power Co. may reach a total of over 12,000 cubic feet per second and that "an increase to the limit of the capacity of the existing tailrace tunnel may be regarded as a simple act of justice."

(S. Doc. 105, p. 17.) The following statement is important: "If the submerged dam above the Horseshoe Fall previously referred to be built, then additional concessions may probably safely be made to the three Canadian companies."

(S. Doc. 105, p. 39.) "No photographs were made in this period" (of shut-down) "because it was well known in advance that the small change in diversion would have no visible effect on the American Fall."

(S. Doc. 105, p. 139.) "The desirability as well as the justice of amending the Burton Act so as to permit the Niagara Falls Power Co. to divert water to the full capacity of its tailrace tunnel are plain." This recommendation is made in the report dated September 21, 1909, after mature consideration of all of the facts and opinions set forth in the 1908 report.

7. MISCELLANEOUS EXTRACTS FROM THE REPORTS.

[Senate Document No. 105, Sixty-second Congress, first session.]

He further states that, in his opinion, the damage already done and that which may be anticipated from further diversions and from lower stages in Lake Erie may be largely, if not entirely, remedied by a submerged dam placed in the bed of the river immediately above Horseshoe Fall, with the object of diverting a portion of the great volume passing over the center or apex of the Horseshoe, so as to increase the streams feeding the depleted ends of that fall, and, incidentally, diminishing the rate of recession of the apex (p. 8).

The interests of justice seem to demand the further statement that, in my opinion, the damage already done, and that which may be anticipated from further diversions and from the impending fall in the level of Lake Erie, may be largely, if not entirely, remedied by a submerged dam placed in the bed of the river immediately above the Horseshoe Fall. The dam, if properly planned, would serve to change the direction of flow, so as to increase the streams that feed the Falls at Terrapin Point and at the Canadian shore. The decrease in the mighty volume that overflows the center or apex of the Horseshoe would not be noticeable. * * * A very direct result of the construction of this submerged dam would be a diminution in the rate of recession of the apex of the Horseshoe. This in itself is extremely desirable (p. 15).

It is possible, however, that Congress may deem just and desirable some additional concession to the power companies, and the following is suggested as a basis for discussion:

It is understood that the intention of Congress, as expressed in the act of June 29, 1906, was to preserve to the various power companies rights which had already accrued through the investment of capital and the construction of fixed plant.

It is possible then that the diversions needed for a maximum profitable use of the existing plant of the Niagara Falls Power Co. may reach a total of over 12,000 cubic feet per second. * * * An increase to the limit of the capacity of the existing tailrace tunnel may be regarded as a simple act of justice (p. 16).

If the submerged dam above the Horseshoe Fall, previously referred to, be built, then additional concessions may probably safely be made to the three Canadian companies (p. 17).

At Buffalo, in westerly gales, the water sometimes rises 8 feet, and in easterly gales sometimes falls 6 feet, giving a range of 14 feet (p. 24).

It would be unjust to charge the power companies with a lowering of the river or lake that might be due to improvements for navigation or to some other cause. That these seasonable variations in the river regimen are present is also sufficient reason why conclusions drawn from cursory and incomplete river examinations might be viewed with suspicion (p. 25).

So far as effects on Lake Erie and the river above the rapids or on the American Fall are concerned, the diversions of the Electrical Development Co. or of the Canadian Niagara Falls Power Co. have no bearing (p. 39).

While the measurements of the Lake Survey have shown with certainty that changes in outflow of the Niagara River have had no appreciable effect toward lowering Lake Erie in the past 10 years, it is equally certain that Lake Erie has already been lowered 3 to 4 inches by reason of the diversion of water tributary to the Niagara River, through the Chicago, Welland, and Erie Canals.

In discussing the injurious effects of diversions at the Falls on Lake Erie and on the Niagara River as navigable waters of the United States and upon the scenic grandeur of Niagara Falls, other diversions of the water of the Great Lakes naturally tributary to the Niagara River need consideration also, as the final injurious effect is the summation of all (p. 49).

If, however, compensating works are established and a surplus of water accumulated against dry seasons, no such serious lowerings will occur.

The navigable capacity of the Niagara River is shown by the above citations to be not seriously injured by such volumes of diversion as will fully supply the existing installations at Niagara Falls, except when the lowering is superimposed on the losses of depth coming from other diversions, and from periodic, seasonal, or temporary low water, as in time of storms.

The determination of the effects of water diversion at Niagara Falls on the cataracts themselves and on the rapids approaching them is not so exact as are the effects on the navigable river and the lake (p. 52).

While that section of the Horseshoe Fall on the American side of the international boundary toward Goat Island shows scant flow and is partially unwatered, a restoration of as much flow as is desirable does not appear a difficult engineering undertaking. Submerged concrete piers at the head of the rapids would effectually throw the current to this section of the rapids and Falls (p. 53).

Any increase of volume of flow over the Falls is always accompanied by a corresponding loss of height in the Falls (p. 55).

The continued recession of the apex of the Horseshoe Fall should tend to further shoal this area, and heavier diversions by the Canadian companies will doubtless leave it dry at times.

These photographs, and the effects on the American fall shown in the equivalent river heights derived from long series of gauge readings, corroborated by the testimony of the actual shutdown of July-August, 1908, firmly establish the fact that the American fall is in no danger of unwatering from diversions through the existing canal of the hydraulic company, the present tunnel of the power company, or the already constructed penstocks of the Ontario Co., even in conjunction with such considerable diversions in the Great Lakes above the head of the Niagara River as have been discussed, and with the lessened flow of seasons abnormally low in surplus supply.

The Horseshoe Fall, on the other hand, as shown by equivalent river heights and confirmed by the shutdown, appears in serious danger of an unwatered crest line at each end, due to all present and anticipated diversions above it, and augmented by the upstream recession of the apex.

It has converted into a spectacle the strength of 5,000,000 horses (p. 56).

Even in dimensions it can not be said that a third of the grandeur has departed when a third of the flow is absent, because the length of the crest line may be little shortened, and the height of fall is even greater when the river flow is small than when it is large.

It is only fair to state, because of some erroneous views held concerning the injury already wrought on the Falls by diversions, that during the past decade, 1899 to 1908, for the months June to October, inclusive, the Falls have had a fullness of volume and consequent grandeur barely less than that of the prior decade, 1889 to 1898 (p. 57).

While this report has dealt with injurious effects on the Rapids and Falls of the Niagara River and with interferences with navigable ways in river and lake, and has shown these up in their limiting, hurtful amounts, it seems proper to suggest certain remedial measures that may serve to harmonize the preservation inviolate of the scenic grandeur with the useful application of the splendid power of the Falls. Both of these things are eminently desirable and feasible.

A volume of 210,000 cubic feet per second with a descent between the "dead line" and the Upper Gorge of 220 feet has a potential of over 5,000,000 horsepower. This is the power of 15,000,000 strong draft horses, each limited to an eight-hour day. If it takes 10 able-bodied men to do the work of one of these

draft horses, the work potential in this fall is that of 150,000,000 men, nearly twice our population of men, women, and children.

The great companies at the Falls have created in good faith power plants to lessen the hardships of human labor, to aid transportation, to illuminate the night hours, and to add to the wealth of two nations. The power houses for the most part are architecturally excellent, harmonizing with the scenic surroundings, and the mechanical wonders wrought in solving the engineering problems of the utilization of this great head and volume of water rival as a spectacle the scenic grandeur of the Falls and add to the attractiveness of the region.

It therefore appears proper to permit and foster such ultimate developments in addition to those already in force as are compatible with the perpetuation of the scenic grandeur appreciably undiminished.

Provided there be no large increase in uplake diversions, the possibilities of continued and extended use of power at the Falls are conditioned upon the construction of regulating works in the Niagara River to avoid the wasteful outflow of the water of Lake Erie. The injury to the scenic grandeur of the Falls and the interference with the navigable waters of the Niagara River and Lake Erie, due to uplake diversions, and the injury and interference coming from periods of drought would be largely obviated by impounding in the lakes a portion the winter outflow. During the months of December to April, inclusive, enough water may be saved to hold the lakes to a proper and economical level to the betterment of navigation and yield a surplusage to partially offset diversions at the Falls. This is a practicable engineering proposition, but as the power companies are beneficiaries they should pay a fair share of the cost of the work (p. 75).

The desirability, as well as the justice, of amending the Burton Act so as to permit the Niagara Falls Power Co. to divert water to the full capacity of its tailrace tunnel are plain.

In view of the intimate bearing of this investigation upon the interests of the company, and as an acknowledgment of the helpful cooperation of the company, it is believed to be advisable to furnish the company with a copy of this report, and permission to do so is requested (p. 139).

[House Document No. 246. Sixty-second Congress, second session.]

As to the effects of diversions, to the extent at present authorized, on the integrity and proper volume of the Niagara River as a boundary stream, it is not apparent that the river through these diversions has suffered. The upper and lower river still continue to discharge approximately the same volume of water, the diminished flow being only over the cataracts and the rapids immediately above. Over this portion the stream, while appreciably decreased, still maintains sufficient width and depth to effectively delimit the boundary. Moreover, it remains impassable and continues to discharge immensely more than many of the smaller international boundary streams and has considerably more than double the flow of the St. Marys River.

It is determined that the total authorized diversion of the American companies, together with the present consumption of the Ontario company, will lower the depth on the American Fall about five-eighths inch and decrease the volume of flow about 5 per cent. As the lowering will result in unwatering little, if any, of the crest line, and as the decreased flow will be scarcely appreciable, it may be considered that the changes on the American Fall are unimportant (p. 12).

In so far as the inspections disclose, the several companies diverting water in the United States from the Niagara River or receiving electrical power in the United States transmitted from Canada have at all times complied with the provisions of their permits (p. 15).

In conclusion, it is due to the several companies and their officers to express appreciation of their generous cooperation in making supervision easy and effective and of their courtesy in acceding to every suggestion or request from this office (p. 16).

No clause bearing upon scenic conditions was incorporated in the transmission permit of the Niagara Falls Power Co. (p. 18).

EXHIBIT A.

Monthly mean levels of Lake Erie referred to mean sea level at New York.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly mean.
1895...	571.79	571.10	571.02	571.23	571.58	571.68	571.66	571.52	571.54	571.30	570.81	571.07	571.36
1907...	573.18	572.57	572.28	572.74	572.83	573.11	573.26	572.95	572.81	572.67	572.60	572.57	572.80
1908...	572.98	572.46	572.73	573.28	573.52	573.49	573.35	573.14	572.67	572.08	572.13	571.91	572.81
1910...	571.33	571.04	571.62	571.92	572.48	572.45	572.37	572.17	571.90	571.98	571.84	571.68	571.90
1911...	571.36	571.05	571.08	571.20	571.78	571.89	571.90	571.87	571.30	571.33	571.87	571.67	571.52

¹ Assuming that December, 1911, will be about 0.2 below November, as has been the case in 1908 and 1910, the average mean level for 1911 will be 571.52, as given above.

Mean level of Lake Erie, 1860-1875, 572.8.

Mean level of Lake Erie, 1860-1895, 572.6.

Mean level of Lake Erie, 1895-1910, inclusive, 572.13.

EXHIBIT B.

Lowering at crest of Horseshoe Fall with Lake Erie at level existing in 1911.

	Terrapin Point.		West End.	
	Predicted in 1908.	Reported in 1911.	Predicted in 1908.	Reported in 1911.
	Inches.	Inches.	Inches.	Inches.
Attributed to deficiency in precipitation.....	5.5	2.00	14.0	5.0
Attributed to power diversions.....	2.5	3.48	8.6	8.6
Total.....	8.0	5.48	22.6	13.6
Attributed to recession at apex of Horseshoe since 1906.....				6.0

¹ Stated as "nearly 2 feet."

NOTES RE REPORTS PUBLISHED IN SENATE DOCUMENT 105, SIXTY-SECOND CONGRESS, FIRST SESSION, AND IN HOUSE DOCUMENT NO. 246, SIXTY-SECOND CONGRESS, SECOND SESSION.

(By Mr. C. C. EGBERT.)

The actual facts relating to the effects of the diversions of water by the power companies at Niagara Falls upon navigation and the scenery are somewhat confused and hidden by statements in regard to the effect of diversions from the Great Lakes above the Niagara River and in regard to the effects due to natural changes. Statements of opinions and prophecies as to future conditions also tend to divert the casual reader from reaching a correct conclusion. On the other hand, a careful analysis brings forth actual observations of results which show that the effects of the diversion by the power companies upon navigation and upon the scenery were at the time of the observations insignificant—so small, in fact, as to indicate that further diversions by the American companies up to the limit provided by the international treaty of May 13, 1910, will be inappreciable to any but a skilled observer, using most refined methods of determination.

The determination of the effects of the diversions of water by the power companies at Niagara are largely based upon data obtained during the shutdown of the Niagara Falls Power Co. during part of July and August, 1908, as described in Chapter VIII in Senate Document 105. The effect of the diversion upon the water levels of Lake Erie is best determined by noting the effect upon the slope of the river between the Buffalo gauge and the Austin Street gauge at Black Rock. Quoting from page 28 of Senate Document 105, "The change in the discharge due to backwater effect at Black Rock is of much importance in this discussion because it is used in determining the lowering of Lake Erie due to river diversion."

In Table 40, on page 42 of Senate Document 105, are given the daily mean water-surface elevations between July 13 and August 6, 1908, inclusive, includ-

ing days before, after, and during the shutdown. The engineers of the lake survey compare these elevations by computing and correcting them for a common lake water-surface elevation, and determine therefrom that the diversion of 6,210 cubic feet per second from the Chippewa-Grass Island Pool results in a lowering in the backwater at Austin Street of 0.028 foot (about $\frac{1}{32}$ inch). It is more direct, and perhaps more free from errors of method and of calculation, to note the effect by comparing the elevations of water surface at Austin Street on days of similar lake levels. This has been done below in Table No. 1 on days upon which the mean daily water-surface elevations, as shown by the Buffalo gauge, did not vary more than 0.02 foot. The lake levels shown by the Buffalo gauge being equal, the fall in the river between the Buffalo gauge and the Austin Street gauge in Black Rock indicates the discharge of the river.

TABLE NO. 1.—Comparison of daily mean water-surface elevations taken from table No. 40 on page 42 of Senate Document 105.

Date.	Elevation in feet.		Fall in feet (A-B).	Effect at Austin Street.
	Buffalo (A).	Austin Street (B).		
Aug. 5.	573.32	568.19	5.13 during diversion	Fect. +0.09
July 19.	573.30	568.08	5.22 during shutdown	
July 14.	573.28	568.03	5.25 during diversion	- .03
July 19.	573.30	568.08	5.22 during shutdown	
July 13.	573.26	567.98	5.28 during diversion	- .07
July 22.	573.25	568.04	5.21 during shutdown	
July 15.	573.26	568.04	5.21 during diversion .....	.00
July 22.	573.25	568.04	5.21 during shutdown	
Aug. 4.	573.23	568.02	5.21 during diversion ..	.00
July 22.	573.25	568.04	5.21 during shutdown	
July 16.	573.13	567.92	5.21 during diversion .....	.00
July 21.	573.15	567.94	5.21 during shutdown	
July 16.	573.13	567.92	5.21 during diversion	- .01
July 20.	573.12	567.92	5.20 during shutdown	
Aug. 3.	573.12	567.90	5.22 during diversion	- .02
July 20.	573.12	567.92	5.20 during shutdown	
Mean effect upon backwater.....				- .005

The effect of the diversion of 6,210 cubic feet per second from Chippewa-Grass Island Pool, as shown by the above comparison, is —0.005 feet (less than one-sixteenth of an inch), an amount less than the probable error of observation and of the measuring instruments. This method of comparison, while showing a smaller effect, does not change the conclusion stated on page 49, namely:

"While the measurements of the lake survey have shown with certainty that changes in the outflow of the Niagara River have had no appreciable effect toward lowering Lake Erie in the past 10 years, it is equally certain that Lake Erie has already been lowered 3 to 4 inches by reason of the diversion of water tributary to the Niagara River through Chicago, Welland, and Erie Canals."

It may perhaps be surprising to those who have not given the matter careful consideration that observations of July 13 to August 6, 1908, did not indicate a larger difference in the discharge of the river due to the diversion. The reasons for the small differences may be explained as follows: The intakes of the Niagara Falls Power Co. and of the hydraulic company are located close together near the so-called weir at the head of the rapids and immediately below islands and grass-covered shoals, so that water entering the intakes is diverted through shallow, tortuous, and weed-obstructed channels, which results in a localized lowering in the Chippewa-Grass Island Pool, which lowering reduces the flow over the so-called weir into the upper rapids by an amount approximately equal to the diversion.

While it is said above that the results as compared in Table No. 1 do not change the conclusion quoted from page 49, the difference, however, casts a shadow of doubt upon the predictions of the effect of further diversion, which predictions are based upon the lowering of backwater at Austin Street of 0.028 foot, due to diversion of 6,210 cubic feet per second.

[Senate Joint Resolution 143, Sixty-second Congress, second session.]

MEMORANDUM BY THE NIAGARA FALLS POWER CO. INDICATING INJURY TO EXISTING INTERESTS BY PASSAGE OF THIS JOINT RESOLUTION, UNLESS AMENDED.

This joint resolution purports to be an amendment of the Burton Act for the control and regulation of the waters of the Niagara River for the preservation of Niagara River and for other purposes, approved June 29, 1906, in view of the provisions of the treaty between the United States and Great Britain, proclaimed May 31, 1910.

By article V of this treaty, it is declared to be the desire of both the high contracting parties to the treaty that the limitation of diversion of waters from the Niagara River shall be accomplished "with the least possible injury to the investments which have already been made in the construction of power plants on the United States side of the river, under grants of authority from the State of New York, and on the Canadian side of the river, under licenses authorized by the Dominion of Canada and the Province of Ontario."

It is assumed therefore, that the controlling purpose of the treaty, as thus solemnly declared, is to be observed in the legislation of Congress with reference to the subject matter of the treaty.

The act of June 29, 1906, was adopted in consequence of a special message of the President of the United States asking and recommending legislation for the protection of Niagara Falls in anticipation of and without waiting for the negotiation of a treaty. Therefore, and in advance of actual demonstration of the necessity therefor, the act, necessarily complete in itself, imposed restrictions not only upon the diversion of Niagara waters within the State of New York, but also upon the amount of power to be transmitted into the United States from the Dominion of Canada and there developed from the Canadian Niagara waters.

Considering first the diversion of waters on the American side, it is to be observed that the several amounts authorized and permitted under the act of the Secretary of War, were as follows:

	Feet.
Niagara Falls Hydraulic Power & Manufacturing Co.....	6,500
Niagara Falls Power Co.....	8,600
Lockport Hydraulic Co.....	500
Total	15,600

This diversion of this amount of Niagara water from the American Falls has proved absolutely inappreciable to the naked eye of the disinterested observer.

As to the Niagara Falls Power Co. it has been found that the computation of the waterways commission of 8,600 cubic feet per second was insufficient to furnish the flow of water actually in operation at the time that the waterways commission was in session, and also is unequal to the production of the 100,000 horsepower which the waterways commission intended to allow.

It is unnecessary to amplify this memorandum by references to the testimony but the printed report of the hearings before the Committee on Rivers and Harbors in 1906 (H. R. 18024) will fully sustain this proposition.

It being understood then that by the allowance of 8,600 cubic feet per second it was intended to provide for the existing requirements of 100,000 horsepower in use by the Niagara Falls Power Co., serious and unintended injustice has resulted to that company by the limitation of 8,600 cubic feet. Actual demonstration showed that the amount would yield only about 82,000 horsepower and that to produce the 100,000 horsepower intended for the Niagara Falls Power Co. it was necessary for that company to have 10,500 cubic feet per second. In other words, an increase of 1,900 cubic feet per second. This being added to the aggregate amount of 15,600 feet allowed upon the American side, would make a total of 17,500 feet.

Recognizing also the other necessities of the other companies on the American side the treaty raised the maximum limit to "a daily diversion at the rate of 20,000 cubic feet per second," which can not be diminished without inflicting serious injury upon the American companies and a consequent loss upon the entire communities and industries dependent upon these companies. This moderate and reasonable enlargement by the treaty has involved and would involve no appreciable injury to the navigability or the scenic beauty of the Niagara River and Niagara Falls.

Similarly the restrictions of the act of June 29, 1906, as to the transmission of power from the Dominion of Canada are unnecessary since the ratification of the treaty, and by their continuance inflict great hardship upon the Buffalo and the Niagara frontier of the State of New York.

The treaty permits the Canadian development by the employment of 36,000 cubic feet per second and there can be no sufficient reason why the State of New York and the cities of the State of New York should be deprived of the use of any part of that Canadian power which can be spared from Canada. This particular amount is at the very beginning that which was in contemplation as being an amount entirely proper for development in Canada, and being just sufficient to meet the requirements of the agreements between the Queen Victoria Niagara Falls Park and the several Canadian companies as follows:

	Cubic feet.
Canadian Niagara Power Co.....	9,500
Ontario Power Co.....	12,000
Electrical Development Co.....	11,200
Niagara Falls Park Railway Co.....	1,500
Welland Canal or its tenants (in addition to lock service).....	1,800
	<hr/> 36,000

This aggregate amount somewhat exceeded and exceeds the aggregate of 350,000 horsepower permitted to be transmitted from Canada into the United States by the act of June 29, 1906, but the provisions of that act authorized a larger importation than would be possible under the treaty if the Canadian use be subtracted therefrom. There is therefore no suggestion of any increase over the possibilities under the Burton Act, so called, but it is submitted that since the maximum of Canadian development has been fixed by treaty there need be no limitation whatever upon the possible benefit to the citizens of the United States from the free transmission into the United States of the power so developed in Canada.

It is to be observed also that the jurisdiction of Congress is limited to the regulation of commerce and the protection of the international boundary as such. These ends being safeguarded, the use of the waters for domestic or sanitary or power purposes is within the rights of the State of New York, and the riparian owners, the largest being the Niagara Falls Power Co., which owns more than 2 miles of the river bank.

By message upon Friday, February 17, 1911, the governor of New York called attention to the rights of the State of New York and to the necessity of avoiding monopoly in the use of these waters, points which should be recognized and protected. These considerations have led to the preparation of the annexed amendment to the pending joint resolution covering all these points and the objections of the governor of New York. It is respectfully suggested that without such amendment the joint resolution can not be adopted without great injury and injustice to interests which, as above set forth, it was the object of the treaty to recognize and to save from unnecessary injury.

FRANCIS LYNDE STETSON,
For the Niagara Falls Power Co.

[Senate joint resolution 143, Sixty-second Congress, second session.]

PROPOSED AMENDMENT.

At the end of the joint resolution, page 2, line 9, add the following:

" *Provided*, That in fulfillment of the purposes of Article V of said treaty the several amounts of water of the Niagara River within the State of New York above the Falls which may be diverted under the said act, or under permits of the Secretary of War in pursuance thereof, shall be limited only so that the total diversion within the State of New York of the waters of said river above the Falls of Niagara for power purposes shall not exceed in the aggregate a daily diversion at the rate of 20,000 cubic feet of water per second, and that the Secretary of War shall have authority from time to time to grant revocable permits for such daily diversion in several amounts not exceeding in the aggregate said 20,000 cubic feet per second, nor to any one individual company or corporation as aforesaid a maximum amount at the rate of 10,000 cubic feet per second; such grants to be made and continued only with due regard to the

rights of the State of New York and its grantees in said waters of said river, and so that no monopoly shall be thereby created or continued: *And provided further*, That the quantity of electrical power which may by permits be allowed to be transmitted from the Dominion of Canada into the United States may and shall be any and all of the power by said treaty authorized to be developed within the Province of Ontario from said waters of said river that shall not be used or be required for use in the Dominion of Canada."

COMMITTEE ON FOREIGN AFFAIRS,
HOUSE OF REPRESENTATIVES,
Thursday, January 18, 1912.

The committee met pursuant to adjournment at 10 o'clock a. m.

The CHAIRMAN. The committee will hear Gen. Francis V. Greene this morning.

FRANCIS V. GREENE. I am president of the Niagara, Lockport & Ontario Power Co., a corporation of the State of New York, and vice president of the Ontario Power Co., of Niagara Falls, a Canadian corporation. I appear on behalf of those corporations. I think it will facilitate the deliberations of the committee if they have certain maps and statements before them. I have here a set of maps, one for each member of the committee, showing the locations of the power plants at the Falls, and the locations of the transmission lines by which the power is distributed.

Mr. GARNER. Will it interfere with you now to ask you some questions that you can keep in mind as you go on with your argument?

Gen. GREENE. I was going to speak not more than a few minutes and then let the committee ask questions. I have also a copy of the Burton law and a map of the Falls made in 1876. These photographs show the conditions of the Falls. That long photograph was taken in 1906 when the Burton law was passed. These photographs were taken last summer. I have also prepared a written statement containing facts which answer a great many of the questions that were asked the other day. The statement is too long to read this morning, and I ask the chairman if it can be incorporated in the proceedings.¹ If the members of the committee will glance it over it might suggest certain questions. Now, with the chairman's consent, I will have these documents placed at each member's desk.

Now, as I understand it, Mr. Chairman, the interest of the United States in this matter is really to preserve Niagara Falls. The Burton law is entitled "An act to control and regulate the waters of Niagara River, preserve Niagara Falls, and for other purposes." The three things which are mentioned in the Burton law as bearing upon the question were: Whether navigation was interfered with, whether the integrity of the Niagara River as a boundary stream was injured, and whether the scenic grandeur of Niagara Falls was injured. The United States engineers have had these subjects under investigation for nearly six years, and have made their elaborate reports, and in substance they report that there is no injury to navigation, that the integrity of the river as a boundary stream is not affected, that the scenic grandeur of the American Falls is in no way affected; but they think that owing to the lowering of the thickness of the waters on the Canadian side the Canadian Falls are affected. Now, as to the engineering questions, you will notice that there is no injury. Gen. Bixby, the Chief of Engineers, testified explicitly, as I understand it, on Tuesday that the slight lowering of Lake Erie had no

¹ Printed on p. 96.

effect on navigation on Lake Erie. Now, as to the grandeur, the opinion of other people than engineers is just as valuable as engineers' opinions. The engineers have endeavored to show that the Horseshoe Falls have nine inches less water going over them in consequence of the diversion of water for power purposes. That is a very complicated scientific computation—a very complicated measurement of gauges. Whether it is entirely accurate or not, the fact is not disputed; but the opinion that the scenic beauty is affected is disputed.

I think that the committee can best satisfy itself as to the scenic grandeur of the Falls by a visit to the Falls. Failing that, I have brought these photographs for the purpose of showing that the Falls are, so far as the ordinary observer can detect, as handsome now as they ever were; that the scenic grandeur has not been injured.

Mr. FLOOD. How could we tell that by a visit if we have never seen the Falls?

Gen. GREENE. You would have to compare that with the best photographs.

Mr. KENDALL. Does the flow of the Falls vary with the lake levels?

Gen. GREENE. The levels vary from day to day and from month to month.

Mr. KENDALL. So that photographs would not be a valuable criterion always?

Gen. GREENE. You will always find that the photographers took the photographs under the best conditions, so that the old photographs are taken to show the best conditions of the Falls; and what you see now is compared with the best conditions before there was any power plant there. The east wind will diminish the flow of water over the Falls by an amount much greater than the total diversions under the treaty.

Mr. GARNER. Would it divert you for me to ask the questions now?

Gen. GREENE. No, sir.

Mr. GARNER. Assuming that this committee will frame legislation under this treaty, I would like to ask you to tell the committee what reason, if any, there should be for the American side to utilize the 4,400 feet remaining; and in that connection, to utilize all that, why all plans and all propositions with reference to construction should not be placed in the hands of the Chief of Engineers or the Secretary of War?

Gen. GREENE. The first part of your question was whether the 4,400 feet should be used?

Mr. GARNER. Yes.

Gen. GREENE. I see no reason why it should not be used.

Mr. GARNER. Now, being one of the parties interested, what objection would you have—and is there any obstacle in law to prevent it—to placing the entire consideration of plants for the use of power under the Secretary of War, that the greatest amount of power may be obtained from the use of that water?

Gen. GREENE. As a matter of fact, I do not suppose a layman's opinion would be of any value. I do not know where you could find anything in the Constitution to permit that, provided the invested capital there is not destroyed—

Mr. GARNER. Well, you must presume that the Secretary of War would not undertake to destroy any kind of enterprise.

Gen. GREENE. I do so presume, and therefore I see no practical objection.

A MEMBER. Have you any suggestions in respect of that?

Gen. GREENE. Well, I think the State of New York will claim the control.

Mr. FLOOD. What do you say to turning this control over to New York?

Gen. GREENE. I may say that I am not interested in this 4,400 feet financially, because the power house in which I am interested is on the Canadian side, but I think that it ought to be used to get the greatest amount of power out of it. Niagara water has become very precious, and I think there is no denying that statement.

Mr. FLOOD. What suggestion have you to make to accomplish that result?

Gen. GREENE. I think the Secretary of War should take up that in conjunction with the State of New York.

Mr. COOPER. The up-State public utilities commission would not undertake to divert that.

Gen. GREENE. No. Here is the present public-service law. It is a controlling law as to price, and it is absolute. As to the issue of securities, they have ample power, but no power is given to them in regard to rivers or diversion of water.

Mr. COOPER. And they would not take up the question of price except upon petition?

Gen. GREENE. The law is mandatory that upon petition of a small number of citizens that the price of electricity is unreasonable they shall investigate it.

Mr. COOPER. Only upon petition?

Gen. GREENE. Only upon petition.

Mr. COOPER. They can not act upon their own initiative?

Gen. GREENE. If they act upon their own initiative they never could get through with the business. It is all they can do to hear complaints now.

Mr. GARNER. Is it not a fact that this commission has so much work to do that it is next to impossible for an individual who claims to be paying too much for gas and electricity to get his complaints before it?

Gen. GREENE. No, sir; the commission is hearing such complaints every day in the week.

Mr. GARNER. I was told that the city of Buffalo had now arranged a fund of \$35,000 for submitting cases to that commission. If it takes that much to submit a case to that commission of New York, I do not see how private citizens can submit their cases intelligently.

Gen. GREENE. I understand that is for getting expert testimony to convince the commission.

Mr. GARNER. Then, if it is necessary for the city of Buffalo to get expert testimony for the purpose of convincing the commission, would it not also be necessary for the ordinary citizen to get expert testimony to convince the commission?

Gen. GREENE. I did not suppose a private citizen could expect the commission to take his word alone.

Mr. KENDALL. General, is there any competition between the companies in the charge for electrical current?

Gen. GREENE. The power companies are scattered in different territories. The decision of the public-service commission in New York is that they will not permit a competition.

Mr. KENDALL. Don't you think that is wrong?

Gen. GREENE. No, sir; I think it is absolutely right, because they have the power to regulate the price. Now, 10 years ago—

Mr. DIFENDERFER. That commission has the right to fix the price?

Gen. GREENE. Yes, sir.

Mr. DIFENDERFER. They do fix the price?

Gen. GREENE. They do. Now, 10 years ago the gas and electric companies were competing in nearly every town. The result of that was the duplication of capital. There was a war between the companies, and prices were slaughtered. Then the companies got together and the price went up and the public paid the bill.

Mr. DIFENDERFER. As usual.

Gen. GREENE. Now, the public-service commission of New York, in two or three decisions, has declined to permit two competing companies, but has fixed the standard of price and quality of gas and electricity.

Mr. DIFENDERFER. Why should they discriminate? What price is Lockport paying for horsepower?

Gen. GREENE. \$16 per horsepower.

Mr. DIFENDERFER. What is the price paid in Buffalo?

Gen. GREENE. I do not know.

Mr. DIFENDERFER. The difference is about 6 miles in favor of Lockport?

Gen. GREENE. Yes.

Mr. DIFENDERFER. Now, you are selling electricity at \$16 per horsepower. Is it not a fact that it is sold in Buffalo at \$29?

Gen. GREENE. I do not know, sir.

Mr. DIFENDERFER. Who do you think could tell us?

Gen. GREENE. Some representative of the company which sells in Buffalo.

Mr. DIFENDERFER. Then, General, I propose to go back to Mr. Garner's question. If an individual were to go before the State commission and enter a protest against the price charged for electricity, would it be possible for that company complained against to penalize the individual?

Gen. GREENE. No, sir.

Mr. DIFENDERFER. Absolutely?

Gen. GREENE. Absolutely.

Mr. DIFENDERFER. You know of no case where this happened?

Gen. GREENE. I can not say that I know of such a case, because I do not know the business of the company distributing power in Buffalo; but I say that can not happen, because the public-service law provides a remedy for that.

Mr. DIFENDERFER. Yes; but if a man is not permitted to take his case before the commission, the State can not act?

Gen. GREENE. The law says that the commission shall investigate if 100 citizens make the protest; but in a population of 450,000 people is it your idea that one individual can make his statement and that can be accepted?

Mr. DIFENDERFER. No; but it should be.

Gen. GREENE. Well, then, if there are not 100 people to say the prices are unreasonable, it is quite evident that there is no unreasonableness.

Mr. DIFENDERFER. Then it is a fact that the city of Buffalo has to raise a fund to protect that right?

Gen. GREENE. Yes, sir.

Mr. DIFENDERFER. You are an expert in power development?

Gen. GREENE. Yes.

Mr. DIFENDERFER. What methods are followed in order to get the highest efficiency from the present diversion on the American side?

Gen. GREENE. Well, the methods which are followed there, I should say, are completely up to date. I am not sure that I know what methods you wish me to describe.

Mr. DIFENDERFER. Yes; I would like to have you—

Gen. GREENE. The Hydraulic Manufacturing Co. has a canal which goes through the city of Niagara Falls and takes the water at a point above the river about a mile below the Falls with a very small loss of head—a few feet; it then drops the water through machinery into the lower river.

Mr. DIFENDERFER. The hydroelectric commission of Ontario is a distributing company?

Gen. GREENE. Yes, sir.

Mr. DIFENDERFER. Do you sell it electricity?

Gen. GREENE. Yes, sir.

Mr. DIFENDERFER. At what price?

Gen. GREENE. At \$9.40 per horsepower.

Mr. DIFENDERFER. How much power does your company sell to this commission?

Gen. GREENE. About 20,000 horsepower.

Mr. DIFENDERFER. Have you any limit as to the amount you are to sell to this company?

Gen. GREENE. 100,000 horsepower.

Mr. DIFENDERFER. Now, what is the price that the cities and villages along the frontier of Canada pay to this company?

Gen. GREENE. Along the lines of the hydroelectric commission?

Mr. DIFENDERFER. Yes.

Gen. GREENE. They pay actual cost without profit; and the law says that the actual cost shall be figured at the price paid to the Ontario Power Co. for power, plus operating expenses, plus sinking fund and interest on the bonds, plus maintenance and depreciation, and they divide that among the cities in proportion to distance of transmission. I think the lowest price named is \$16, and as far as 120 miles away at London, my recollection is, the price is \$24. They are talking of going to Windsor on the Detroit River, and I think the price there is \$30.

Mr. DIFENDERFER. Do you think there is a possible prospect of their ever doing it?

Gen. GREENE. Possible.

Mr. DIFENDERFER. Is it probable?

Gen. GREENE. I should say not probable, on account of the distance.

Mr. DIFENDERFER. So that the Detroit people are not very likely to be accommodated from this source?

Gen. GREENE. That is a matter of opinion.

Mr. DIFENDERFER. Now, then, your company has built on Dominion land owned by the park commission?

Gen. GREENE. Yes, sir.

Mr. DIFENDERFER. You pay rental?

Gen. GREENE. It is \$1.50 for the first 20,000, \$1 for the next 10,000, 75 cents for the next, and 50 cents for every horsepower over that.

Mr. DIFENDERFER. Now, I am speaking of the Canadian side of this proposition. These rentals are used for the building of boulevards?

Gen. GREENE. They were used for buildings at the park, and now it is for a boulevard.

Mr. DIFENDERFER. And this money was to be used for that purpose?

Gen. GREENE. They are using it for that.

Mr. DIFENDERFER. Is there any such boulevard on the American side?

Gen. GREENE. No; I think not.

Mr. DIFENDERFER. Have you any reason to give why that proposition should not be made for the American side?

Gen. GREENE. It is the difference of who owns the land. The Canadian Province owns the land on their side.

Mr. DIFENDERFER. You know that this proposition has been suggested for 30 years?

Gen. GREENE. I did not know that.

Mr. DIFENDERFER. I believe that is a fact. Now, does the company make a profit on the power sold to the hydroelectric commission?

Gen. GREENE. Well, until the books close in a year or two, I would not be sure about it.

Mr. DIFENDERFER. Well, I don't like to be side-stepped on that. I want a different answer.

Gen. GREENE. I think we are going to make a slight profit, but I am not sure of it.

Mr. DIFENDERFER. And you make a slight profit?

Gen. GREENE. Nine forty.

Mr. DIFENDERFER. That is for the necessities?

Gen. GREENE. It is 50 cents tax for 40,000 horsepower.

Mr. DIFENDERFER. What is the cost of the transmission of power from the Canadian side to the American side?

Gen. GREENE. It depends upon the distance. You mean just to the boundary line or to Syracuse, 160 miles away?

Mr. DIFENDERFER. No; just to the boundary line.

Gen. GREENE. The cost of transforming and transmitting to the boundary line is something like \$2—between two and two and a half.

Mr. DIFENDERFER. Now, supposing your company to have come into the city of Buffalo and not skirted the boundary of Buffalo as has been stated here, at what price could you have furnished electric power to the people of Buffalo?

Gen. GREENE. We are furnishing the suburbs at twenty to twenty-four dollars.

Mr. DIFENDERFER. Some years ago there was a proposition to enter the city of Buffalo—your company?

Gen. GREENE. Yes, sir.

Mr. DIFENDERFER. What were the circumstances under which you were to secure that franchise?

Gen. GREENE. We were required to put every wire under ground.

Mr. DIFENDERFER. What else?

Gen. GREENE. That was enough to bankrupt us.

Mr. DIFENDERFER. Did you not require that you be permitted to have the same terms granted you that were granted to the original company?

Gen. GREENE. No, sir; there was no use of coming into competition with them unless we were on an equal basis.

Mr. DIFENDERFER. But you came in later; so that there was a vast improvement in the production of electricity that would have given you an advantage?

Gen. GREENE. Not very great.

Mr. DIFENDERFER. Is it not a fact that you did not care to compete with the Buffalo people?

Gen. GREENE. We would have been very glad to compete with them on equal terms.

Mr. DIFENDERFER. Could they compete with you on equal terms at Lockport or any of the towns skirting the city of Buffalo?

Gen. GREENE. I do not see why they have not.

Mr. DIFENDERFER. Why is it they do not?

Gen. GREENE. Because it does not pay.

Mr. DIFENDERFER. Isn't it a gentleman's agreement?

Gen. GREENE. No, sir; absolutely not.

Mr. DIFENDERFER. Now, in the start, giving your testimony here, you placed particular stress upon the scenic proposition here, the destruction of the scenery about the falls. Do you know whether or not at any time that proposition was created and the point raised by the companies themselves in order to throw dust into the people's eyes? Do you know whether or not you had a newspaper man employed to agitate that question?

Gen. GREENE. I did not; absolutely did not.

Mr. DIFENDERFER. Now, I understand that the scenic part of it is but an incident here; that that is the thing that you people are trying to place uppermost before this committee, but I appreciate this fact: That there is a far more potent factor back of this, and that is, that the people owning these rights to-day should be made to use every part of the electricity that they can use, at a price that would be profitable and at the same time beneficial to the community which they serve. If you can serve Lockport at \$16 it seems to me that the companies are placing an extraordinary burden upon the people in the city of Buffalo.

Gen. GREENE. Outside of the city of Buffalo we sell at from twenty to twenty-four dollars, depending on the quantity.

Mr. DIFENDERFER. What do you get in Rochester?

Gen. GREENE. \$25.

Mr. DIFENDERFER. Are you in any way associated with the Mackenzie-Mann Co.?

Gen. GREENE. No, sir.

Mr. DIFENDERFER. Do you sell them any power?

Gen. GREENE. No, sir.

Mr. DIFENDERFER. Do you buy any?

Gen. GREENE. No, sir.

Mr. DIFENDERFER. Do you know whether or not the General Electric Co. buys any?

Gen. GREENE. I know nothing at all about the General Electric Co.'s business.

Mr. GARNER. General, let us get back to the two original propositions. First, is there any objection to utilizing the 4,400 feet; and, second, is there any reason why we should not import the full extent of the power created in Canada to the United States?

Gen. GREENE. I say there is no reason why you should not take the 4,400 feet. There is no reason why you should not import the full extent of the power created in Canada to the United States.

Mr. GARNER. Is there any reason why we should not make a limit of cost on both sides?

Gen. GREENE. I think there is a reason why—because you have not the judicial machinery to determine what the price should be.

The CHAIRMAN. With whom, in your opinion, should the power to fix the tolls be lodged—with the Secretary of War or the New York Public Service Commission?

Gen. GREENE. With the Public Service Commission of the State of New York, which has given entire satisfaction to the people of that State for more than five years.

The CHAIRMAN. I agree with you about that.

Mr. GARNER. Would there be any objection; and if so, what objection, to the United States Government having a commission for the purpose of regulating the prices of power to be furnished both from the American Government and that to be furnished by Canada?

Gen. GREENE. What would be the respective limits of jurisdiction?

Mr. GARNER. The United States would absolutely control the prices from Niagara Falls, it being a navigable stream and a boundary. What is the objection to fixing a commission?

Gen. GREENE. The only objection is that it has already been done by the State of New York.

A MEMBER. Is that as to Canada?

Gen. GREENE. Yes, sir. Any power imported from Canada can not be sold except subject to the jurisdiction of the Public Service Commission of New York.

The CHAIRMAN. In that connection, General, I desire to say that the State of New York, through the attorney general, Mr. Carmody, and the commissioners of public service, with the commissioners of conservation, will be represented here next Tuesday.

Mr. KENDALL. General, I notice in your statement that you appear on behalf of both the New York corporation and the Canadian?

Gen. GREENE. Yes, sir.

Mr. KENDALL. Do you know whether there is any community of interest to the extent of there being an identity of stockholders? Are any of the American stockholders interested in the Canadian company?

Gen. GREENE. Some of the stockholders of the Canadian corporation are stockholders of the New York corporation, but in the aggregate they are a minority and they do not control the New York corporation.

Mr. KENDALL. But would not their interests be such that they would not desire an active competition?

Gen. GREENE. There could not be any competition; one is a distributing company in New York and the other is a power-house company in Canada; one sells to the other.

Mr. KENDALL. You said you did not think it would be proper to have any competition between the two sides?

Gen. GREENE. No, sir; I did not say that.

Mr. KENDALL. Yes; but I asked you a few moments ago if it would not be a beneficial arrangement to have a competition, and I understood you to say that it would not be on account of the New York commission regulating it?

Gen. GREENE. No, sir; I did not say that.

Mr. SHARP. Any active competition with the American side.

Gen. GREENE. I do not think you will ever get competition in the same locality; experience has shown that that is a failure; it does not produce low prices, but destroys capital.

Mr. SHARP. We have been more or less entertained here by people representing Detroit interests or the people of Detroit. They earnestly desire this importation to compete with the higher rates in Detroit. Now, if that be 192 miles away, it would be much easier to transmit that power from New York. In other words, if a competition is good for Detroit and other places, I should think it would be just as good for New York and the other side.

Gen. GREENE. I do know that the people in New York are entirely satisfied with the public-service commission. I do know that there has never been a complaint of the price of power of the companies which I represent for six years.

Mr. GARNER. As I understand you, General, it makes no difference how many companies you have, if the commission has the absolute power to fix the price there can not be any competition?

Gen. GREENE. That is the theory of the law.

Mr. GARNER. In other words, the commission fixes maximum price?

Gen. GREENE. Yes, sir; but you can sell at much less.

Mr. GARNER. Then there is an opportunity for competition under the commission law of New York?

Gen. GREENE. Oh, yes; but another feature of the law requires that the public-service commission shall approve the issue of securities, and sometimes they have declined to do that for the purpose of making two electrical distributing companies.

Mr. COOPER. Is not the whole idea that of making a monopoly?

Gen. GREENE. A regulated monopoly. That is what railroads are, and that is what electrical companies are, and the idea of competition is an idea of the past.

Mr. DIFENDERFER. Is it true or not that the Electrical Development Co. is practically owned by the Mackenzie-Mann interests?

Gen. GREENE. That is commonly reported. It is common talk.

Mr. FLOOD. Do I understand you to say there has been no complaint on the American side on account of the fact that power is cheaper on the Canadian side?

Gen. GREENE. The Niagara-Lockport lines extend west as far as Dunkirk, and no complaint has been made to us that the rates were unreasonable.

Mr. FLOOD. People on this side are satisfied to see power cheaper on the other side?

Gen. GREENE. There is no comparison. Do you understand how it is sold on the Canadian side? It is sold on a Government bond bearing 4 per cent interest and sold at 102½. Now, the members of

this committee claim that a public-service corporation should not get a return of its capital.

Mr. FLOOD. What is the capital of the original company?

Gen. GREENE. The company in Canada?

Mr. DIFENDERFER. The Ontario Power Co.

Gen. GREENE. The amount of outstanding—the amount invested in the property is \$30,000,000.

Mr. FLOOD. That is what it cost?

Gen. GREENE. Yes, sir.

Mr. FLOOD. What is the cost of both plants?

Gen. GREENE. The New York corporation—about eight or nine million dollars.

Mr. FLOOD. What is the bond issue?

Gen. GREENE. On the Canadian side it is about ten million, but on the American side about five million.

Mr. FLOOD. What is the capital stock?

Gen. GREENE. The capital stock on the Canadian side is about \$6,000,000 and on the American side about \$4,000,000.

Mr. FLOOD. What dividends do they pay?

Gen. GREENE. Neither company has ever paid a dividend.

Mr. FLOOD. What is the stock selling for now?

Gen. GREENE. There is no active market in either of them. The quotations are about 50.

The CHAIRMAN. There has never been any complaint about extortionate prices by any citizens of New York against your companies?

Gen. GREENE. No, sir.

Mr. FLOOD. What did you say the stock was selling for?

Gen. GREENE. Around 50.

Mr. FLOOD. Have you laid aside any surplus fund?

Gen. GREENE. No, sir; the companies are earning something more than their interest.

A MEMBER. You turn that into the company instead of paying it out in dividends.

Mr. DIFENDERFER. What was the original capitalization?

Gen. GREENE. That is the original capitalization.

Mr. DIFENDERFER. Thirteen millions?

Gen. GREENE. Yes, sir; but it has been increased from year to year.

Mr. DIFENDERFER. How much was paid into the company originally, in cash? There are two kinds of water, you know—one goes over Niagara Falls and the other goes into stock.

Gen. GREENE. Why, the equity over and above the bonds is about three or four million dollars on the Canada side and about as much on the American side.

Mr. DIFENDERFER. Now, as a business man you would know who your competitors were, would you not?

Gen. GREENE. I should think so.

Mr. DIFENDERFER. Well, are the Mackenzie-Mann interests involved in the Ontario Power Co.?

Gen. GREENE. No, sir.

Mr. DIFENDERFER. In no way?

Gen. GREENE. No, sir.

Mr. DIFENDERFER. Are there stockholders?

Gen. GREENE. They are not.

Mr. DIFENDERFER. I simply ask that because it might explain away why the Electrical Development Co. does not ship or transmit power to this company.

Gen. GREENE. I think they do not. I answer you absolutely that they are not interested to a dollar in our company, and there is no arrangement with them that they shall bring power to this company.

Mr. DIFENDERFER. Why is it that the Mackenzie-Mann interests do not bring their electricity to this company?

Gen. GREENE. Because it costs an enormous amount of money to build transmission lines and because we have not paid dividends for six years they probably think it does not pay.

Mr. COOPER. Is there not a very rapid industrial development going on in Canada?

Gen. GREENE. Yes, sir.

Mr. COOPER. And is it not very probable that Canada will get all of this?

Gen. GREENE. Yes, sir.

A MEMBER. General, do you believe that this additional transmission into this country will materially diminish the price?

Gen. GREENE. No, sir.

A MEMBER. There would be no benefit in anybody taking the power?

Gen. GREENE. No; because the price at which the power is sold is very much less than the price of steam power, and that allows the trolley lines to extend their tracks to points they could not otherwise reach.

Mr. FLOOD. What is the difference in price between steam power and electric power?

Gen. GREENE. Steam power comes somewhere between forty and fifty dollars per horsepower, and yet we sell in the vicinity of the power plant at twelve fifty. At Lockport we sell at sixteen; and at Syracuse we sell at thirty.

Mr. DIFENDERFER. How much at Rochester?

Gen. GREENE. Twenty-five. In any event, we are a quarter or a third below the price of steam power.

Mr. DIFENDERFER. How do you account for your ability to sell it in Rochester for 25 when the charge in Buffalo is 29?

Gen. GREENE. I can not give you any answer in regard to the prices in Buffalo, because I do not know their business.

Mr. DIFENDERFER. Now, when this treaty was framed between this country and Canada—you and I are both laymen on this proposition; I am not a lawyer and you are not a lawyer—who was it that suggested the 36,000 cubic feet per second in Canada and the 20,000 for the American side?

Gen. GREENE. As I understand that, it was made by the International Waterways Commission at the request of the Secretary of State, who was negotiating the treaty.

Mr. DIFENDERFER. Do you know whether or not any suggestions came from these power companies?

Gen. GREENE. Some were made, but they were not considered. They were informed by the Secretary of State that he would get his own information from the Government authorities.

Mr. FLOOD. Did not the suggestion rather come from Canada?

Gen. GREENE. Well, I have never seen the minutes of the meetings between Mr. Bryce and Mr. Root.

Mr. GARNER. General, do I understand you correctly when you say that these 36,000 cubic feet were awarded to Canada and 20,000 to the United States at the suggestion of the International Waterways Commission?

Gen. GREENE. In response to the request of the Secretary of State for information.

Mr. DIFENDERFER. Who gave that information?

Mr. GARNER. The engineering board.

Gen. GREENE. The International Waterways Commission of that time. You will find reports in the back history of this matter in the investigation of 1906.

A MEMBER. March 19, 1906.

Gen. GREENE. You will see that figures up. March 19, 1906, International Waterways Commission, and here is their signed recommendation.

Mr. SHARP. General, are you familiar with the reasons why this discrimination was made?

Gen. GREENE. I understand that the reason why the United States was allotted 20,000 feet is that about 90 per cent of the Falls is on Canadian territory.

Mr. SHARP. That is what I thought.

Gen. GREENE. The boundary line is not in the center of the stream, but runs through the thin water near Goat Island, and the report of the engineers is that only 5 per cent goes over the American Falls and perhaps 2 or 3 per cent over the American side of the Canadian Falls; so that less than 10 per cent of the water of Niagara Falls is on the territory of the United States.

Mr. KENDALL. Where do you say that boundary line is?

Gen. GREENE. At Terrapin Point.

Mr. SHARP. Another reason I heard is that the supposed loss of the drainage canal at Chicago—

Gen. GREENE. Oh, that always appears; 10,000 feet at Chicago.

Mr. SHARP. Are you acquainted with the operations of the Shinnegan Power Co.?

Gen. GREENE. I visited it once.

Mr. SHARP. Do you know what rate they are getting for their power?

Gen. GREENE. No; I do not.

Mr. DIFENDERFER. General, the Ontario Power Co. is a corporation?

Gen. GREENE. Yes, sir.

Mr. DIFENDERFER. And it is a power-distributing company?

Gen. GREENE. Yes, sir.

Mr. DIFENDERFER. And you are the vice president?

Gen. GREENE. Yes, sir.

Mr. DIFENDERFER. So that your association with the Ontario Power Co. would be very intimate?

Gen. GREENE. Yes, sir.

Mr. DIFENDERFER. Now, the Niagara, Lockport & Ontario Power Co. is the company that distributes the power created by the Ontario Power Co.?

Gen. GREENE. Yes, sir.

Mr. DIFENDERFER. It is the distributing company?

Gen. GREENE. Yes, sir.

Mr. DIFENDERFER. And you take this product at the center of the river?

Gen. GREENE. Yes, sir.

Mr. DIFENDERFER. Then, you must have information as to what it costs to deliver it to the center of the Niagara River?

Gen. GREENE. I have previously answered that question.

Mr. DIFENDERFER. And you say that the MacKenzie-Mann Co., which is the Electrical Development Co., could not afford to bring it into the United States?

Gen. GREENE. I have made that statement.

Mr. DIFENDERFER. How do you dovetail the two—that you can afford as a member of these companies to bring this power to this side and distribute it to Rochester, and so on, and yet you say the MacKenzie-Mann Co. can not bring it here to Buffalo?

Gen. GREENE. I did not say anything about Buffalo. Of course, if there are any representatives of the MacKenzie-Mann interests here they can speak better than I can, but if they are not, I would say that I would not ask capitalists to put seven or eight million dollars into a second transmission company to use their power in New York, because it would not produce any return.

Mr. DIFENDERFER. Now, then, it would be practically impossible to expect that company to deliver any electricity in Detroit under those circumstances, would it not?

Gen. GREENE. The MacKenzie-Mann Co.?

Mr. DIFENDERFER. Yes.

Gen. GREENE. I don't understand——

Mr. DIFENDERFER. I am just taking a hypothesis.

Gen. GREENE. I should not expect to make any money by going to Detroit.

Mr. DIFENDERFER. And you rather an acute business man; you have the reputation of being a rather acute business man?

Gen. GREENE. Yes, sir. [Laughter.]

Mr. DIFENDERFER. Now, the MacKenzie-Mann Co. is——

Gen. GREENE. They are rather acute, too.

Mr. DIFENDERFER. If they are not able to do it, it is quite evident that no other company will ever, within our lifetime, supply Detroit, or even Windsor?

Gen. GREENE. Now, when you talk about your lifetime, I don't know your expectation of life——

Mr. DIFENDERFER. About three or four years. [Laughter.]

Gen. GREENE. But what is possible in electricity in 15 years that no man can say. It was about 15 years ago that they said we could not take the power to Buffalo; now we run cars by it in Oswego.

Mr. DIFENDERFER. What do you sell it for in Oswego?

Gen. GREENE. The Syracuse lines run from Syracuse to Oswego. Detroit is about 225 miles away. Before the hydroelectric-power commission was formed we considered the idea of going to Detroit, but we could not agree with the people of Detroit on the price; we could not see, from the price they were willing to pay, that it would be a successful commercial venture. Now, the hydroelectric commission distributing at cost is another proposition. They have figured the distance to Buffalo to be 225 miles. Now, I don't want to take

up the time of this committee, but this matter of transmission depends on the transmission of voltage; and voltage, in electricity, is practically synonymous with pressure.

Now, when the Niagara Falls Co. took their power to Buffalo some 10 or 12 years ago the highest voltage they could get was 11,000; that was in 1896, 16 years ago. I think there was a great deal of doubt whether it was going to be a success, and it was a success. We came along in 1906 and we went to 60,000. The hydroelectric power commission is using 110,000. Now, as I understand it, the distance you can take it is approximately proportionate to the pressure, and that depends upon getting an insulator which will hold the current.

Mr. FLOOD. With 110,000, how far can you carry the current?

Gen. GREENE. I should say 200 miles, or even more, but there is a loss, and the steam plants are every year improving in efficiency.

Mr. COOPER. General, do you know anything about the development of crude oil—that there are a great many manufacturers who claim to-day that they can make power cheaper than you can sell it?

Gen. GREENE. Yes; I know they claim it, but at what price?

Mr. COOPER. That is, the price which you sell it at. We claim that we can make power with our oil engines cheaper than we could buy it from you if you were located in Buffalo.

Gen. GREENE. I don't doubt that, because there has been a very remarkable development in crude-oil engines.

Mr. DIFENDERFER. Now, at a distance far remote from your plant. I would state that at the Pardee mine they have an immense amount of power that can be used (and I am not informed that they are unable to supply it) a great deal more cheaply than the people are selling it to-day.

Gen. GREENE. I understand that a hydroelectric plant is being constructed at Scranton—

Mr. DIFENDERFER. This is the Pardee-Areo plant that I am talking about, and they claim that for the next 50 years they can supply electricity without any perceptible decrease.

Gen. GREENE. New York is not blessed with culm banks.

Mr. DIFENDERFER. No; but I say they are getting their culm as cheap as you are getting your water.

Gen. GREENE. Yes.

A MEMBER. Is there any other company that transmits power into this country except your company?

Gen. GREENE. Not beyond Buffalo.

A MEMBER. The Electrical Development Co. is not a transmission company?

Gen. GREENE. They have no transmission lines in the United States.

Mr. GARNER. If Congress, acting for the United States, should decide that to use the 4,400 feet additional would not affect the scenic beauty of the Falls, and that it was advisable to permit Canada to import power into the United States, would not the whole question be solved as to the construction of the works and the charges, if we should provide that everything should be done under the Secretary of War?

Gen. GREENE. What are the limits of his supervision?

Mr. GARNER. Limits as to the conditions precedent and the establishment of plants in the United States and the prices to be charged for the power imported.

Gen. GREENE. I do not know about the machinery.

Mr. GARNER. Well, Congress could furnish him with machinery, and it is supposed that the engineering department is the best body to determine the cost of production.

Gen. GREENE. I was an officer of engineers for 20 years; I would not dispute that statement.

Mr. GARNER. Yes; but I am saying that the Engineer Department is the best organization to determine the price.

Gen. GREENE. I do not think that the cost or price is a matter that has often come to them as engineers. As to the commercial questions as to what returns are fair on an investment of capital, I do not think they are experts.

Mr. COOPER. General, in answer to a question I asked you, you gave as your answer, did you not, that the up-State public utilities commission would claim that it would be an infringement of their rights in New York if Congress undertook to fix the rates?

Gen. GREENE. Well, I would say that there would be two bodies with the same powers; but what action the State of New York would take under those circumstances it is not for me to say. I say that here is a commission that for five years has done that work and done it very satisfactorily. Now, if you create a United States agency to do that work you have two bodies doing the same thing in the State of New York.

Mr. COOPER. You agree to what seems to be Mr. Garner's idea (and it is mine, too) that Congress should delegate to the Engineer Department the means by which this power is to be diverted? That is, that they should get the maximum results?

Gen. GREENE. Yes, sir; there is no one who can determine better than they how the works should be constructed.

Mr. DIFENDERFER. Then they have the power to discriminate in the prices—the New York Public Service Commission? Have they the right to discriminate as between localities?

Gen. GREENE. They have the right to discriminate between localities, certainly. The price is not the same between 10 miles away and 200 miles away.

Mr. DIFENDERFER. Then do you not think they have discriminated in the prices charged at Buffalo and at Lockport?

Gen. GREENE. They have never investigated it, but they are going to do it now.

Mr. DIFENDERFER. Here you have something like sixty or sixty two million dollars of invested capital. The law says that if 100 people think the prices are unreasonable the commission shall investigate and determine the fact. That acts something like the recall, does it not?

Gen. GREENE. Yes, sir. [Laughter.]

I say I do not think you can ask that one man should have the power to say anything involving such large interests—

Mr. DIFENDERFER. One man should have that power. One man should be permitted to set a precedent for the rest in a decision from that board.

Gen. GREENE. You will have to fight that out with the Legislature of New York.

Mr. DIFENDERFER. My contention is that the public-service commission of New York is not doing its duty to the city of Buffalo.

Gen. GREENE. I have never heard any complaint from the people of New York. The people that you are desiring to protect are perfectly satisfied.

Mr. KENDALL. The rates in Buffalo are perfectly uniform with the rates in New York, and if one man has a grievance his neighbors ought to have it also.

Gen. GREENE. There would be a hundred.

Mr. KENDALL. I think it is not unreasonable at all that a hundred should be required to join.

Gen. GREENE. In half a million people?

Mr. DIFENDERFER. Yes; but if that single complaint is brought, that complaint is public, and I contend that in the city of Buffalo the party making that complaint has been penalized by the company.

Gen. GREENE. Mr. Difenderfer, if you are dissatisfied with the price of a railroad ticket from here to Philadelphia, do you claim that you have the right to demand of the Interstate Commerce Commission that that price shall be reduced?

Mr. DIFENDERFER. If the railroad company is breaking the law, I have that right.

Gen. GREENE. But we are not breaking the law. We are complying with the law.

A MEMBER. The difference is this: Any single citizen can complain about a discrimination, but he can not get the general schedule rates changed under the law of the city.

The CHAIRMAN. General, in order to simplify the matter as much as possible, let me ask you a few questions.

We have a treaty with Great Britain, and under article 5 of that treaty Canada has the right to divert 36,000 cubic feet of water per second and the United States has the right to divert 20,000 cubic feet of water per second for power purposes. If there is no legislation in this matter the treaty is self-acting, is it not?

Gen. GREENE. Yes, sir.

The CHAIRMAN. And the United States could then take the 20,000 feet for power purposes and Canada could take 36,000 feet per second for power purposes?

Gen. GREENE. Yes. As to the transmission of power from Canada, there is no reason why you should legislate. Prior to the 29th day of June, 1906, it was perfectly lawful to do what we were then doing—bringing power from Canada to the United States; on the 30th day of June, 1906, it was a crime to bring power into the United States from Canada unless we had the written permit of the Secretary of War.

Mr. KENDALL. Under the Burton Act.

Gen. GREENE. Under the Burton Act what was lawful on the 29th of June was a crime punishable by fine and imprisonment on the 30th day of June, and that was the object of this legislation. Therefore I answer your question as to the transmission of power from Canada—there is no reason for you to legislate at all.

The CHAIRMAN. The Burton law expires on the 1st of March of this year?

Gen. GREENE. Yes, sir.

The CHAIRMAN. The treaty is the supreme law of the land. There being no legislation, the people of the United States can take the 20,000 cubic feet per second and Canada can take 36,000 cubic feet per second, and the power can come in from Canada.

Gen. GREENE. As to the transmission, you should not legislate. As to the diversion of water, I think you will have to legislate as to who shall have this 4,400 feet; to whom it shall go and how. I supposed when I read that treaty that it was a matter the commission should decide. I understand now that the commission can not do anything with it. The War Department can not do anything with it. Apparently it is necessary to legislate as to who shall get this 4,400 feet.

Mr. SHARP. General, what proportion is that to the whole water that goes over the Falls—all the water?

Gen. GREENE. The average flow, as certified by the United States engineers, is 211,000 feet per second. The permissible diversion is about 56,000.

Mr. SHARP. I imagined that the flow was a great deal more than that.

Gen. GREENE. How many tons do you think that will be an hour? Two and a half million tons an hour.

Mr. SHARP. It seems to me that there is something in the claim that to diminish the flow would destroy to a certain extent the scenic beauty. It is large enough to make us go with caution.

Mr. KENDALL. It is a little more than one-fourth.

Gen. GREENE. That question was asked me in the last hearing, six years ago: What proportion of the water could be diverted without interfering perceptibly with the flow of the Falls? I answered: "About 40 per cent." I adhere to that opinion, and I have watched the Falls very carefully ever since. That would be 80,000 cubic feet instead of 56,000 feet. There are a great many other people who are very familiar with the Falls who have the same opinion that I have—that the effect would not be noticeable until you get to 40 per cent. Under Mr. Burton's law the 160,000 horsepower that he allows to come in would be somewhere between 14 and 15 per cent.

Mr. SHARP. About half.

Gen. GREENE. A little over half.

The CHAIRMAN. Now, General, to proceed, with whom do you think the power should be lodged regarding this additional 4,400 cubic feet of water?

Gen. GREENE. I think with the War Department, through the co-operation of the State of New York.

Mr. DIFENDERFER. Now, to whom shall it be given?

Gen. GREENE. I should say to that company which will satisfy the War Department that it will give the most power.

Mr. DIFENDERFER. The Alexander bill provided that it would give it to two companies. I want to know whether, in your judgment, that would be just?

Gen. GREENE. The Alexander bill followed Burton's bill in naming certain companies, but that bill is dead.

Mr. DIFENDERFER. I understand; but would it be fair to give that to both companies?

Mr. KENDALL. That is an ethical question; on that one man's judgment would be just as good as another's.

The CHAIRMAN. General, I understand you to say that the right to grant the permit for the additional power should be lodged with the Secretary of War, and the right to say who shall have it and fix the charges should be lodged with the public-service commission of New York.

Gen. GREENE. Yes, sir.

The CHAIRMAN. That is all the legislation required, in your judgment?

Gen. GREENE. Yes, sir.

The CHAIRMAN. Then the people of the United States could buy power either from the American companies or from the Canadian companies?

Gen. GREENE. Yes, sir.

Mr. LEGARE. General, do you know how many visitors are at the Falls in a year?

Gen. GREENE. Our record book shows about 5,000. I do not know precisely about the other companies, but I think they are fully as large; and they go through the works. That, however, is not the total number of people who go to the Falls.

Mr. LEGARE. But how many people have the pleasure of seeing the Falls?

Gen. GREENE. I was just asking if the president of the Gorge Railroad was here; but I think about 150,000.

A VOICE. A million and a half.

Gen. GREENE. Well, I should not like to say.

Mr. LEGARE. About a million and a half?

Gen. GREENE. Yes.

Mr. LEGARE. About how many people are benefited by the use of this power? How many people are supplied with light?

Gen. GREENE. About 2,500,000, and in Ontario about 1,000,000.

Mr. LEGARE. About 3,500,000?

Gen. GREENE. Yes, sir.

Mr. SHARP. I don't know whether it was debated in the Senate, but some years ago a prominent member of that body took up seriously the question of putting a dam above the Falls; and on account of the deepening of the canal there is a great agitation now to make the Chicago Canal navigable. What effect might come on account of this legislation? If the whole amount was diverted and in succeeding years there should be a decline in lake levels and this agitation should increase for diverting a larger amount, what would be the effect upon the flow from the Falls?

Gen. GREENE. The dam you speak of is now being considered by the International Waterways Commission, under the convention of 1902. They say they expect to arrive at their conclusion in about a year or less, and pending that report I do not feel qualified to say anything. You understand that the wind varies the lake levels to the extent of 14 feet.

Mr. SHARP. There is only about 14 feet difference clear around to Lake Erie.

Gen. GREENE. This 14 feet is at the Buffalo end, due to the east wind backing it up and the west wind blowing it down.

Mr. SHARP. Acts a good deal like the wind blowing over the lime kilns at Detroit.

Gen. GREENE. That is all. However, before closing I put on the desk these photographs. The earliest one is 1804. I would like to call the attention of the members of the committee to this. These are photographs of 1890 to 1900. I think, Mr. Cooper, in looking at the photographs of 1911, thought that that lack of water on Terrapin Point was due to the power companies.

Mr. COOPER. General, sometimes I don't know what to think about those photographs.

STATEMENT BY FRANCIS V. GREENE ON BEHALF OF NIAGARA, LOOKPORT & ONTARIO POWER CO., A NEW YORK CORPORATION, AND ONTARIO POWER CO. OF NIAGARA FALLS, A CANADIAN CORPORATION.

Mr. Chairman, the treaty between the United States and Great Britain in regard to the boundary waters of the United States and Canada was negotiated by Mr. Root, then Secretary of State, on behalf of the United States, and by Mr. Bryce, British ambassador, on the part of Great Britain; it was signed by them on January 11, 1909; the Senate of the United States gave its consent, under certain conditions, to its ratification by resolution dated March 3, 1909. The conditions imposed by the Senate delayed the ratification by Great Britain for a year, but it was ratified by Great Britain on March 31, 1910; by the President on the following day, April 1, 1910; the ratifications were exchanged at Washington on May 5, 1910, and the treaty was proclaimed by the President on May 10, 1910.

The fifth article of said treaty relates to the diversion of the waters of the Niagara River above the Falls, and is in the following language:

"The High Contracting Parties agree that it is expedient to limit the diversion of waters from the Niagara River so that the level of Lake Erie and the flow of the stream shall not be appreciably affected. It is the desire of both Parties to accomplish this object with the least possible injury to investments which have already been made in the construction of power plants on the United States side of the river under grants of authority from the State of New York, and on the Canadian side of the river under licenses authorized by the Dominion of Canada and the Province of Ontario.

"So long as this treaty shall remain in force, no diversion of the waters of the Niagara River above the Falls from the natural course and stream thereof shall be permitted except for the purposes and to the extent hereinafter provided.

"The United States may authorize and permit the diversion within the State of New York of the waters of said river above the Falls of Niagara, for power purposes, not exceeding in the aggregate a daily diversion at the rate of twenty thousand cubic feet of water per second.

"The United Kingdom, by the Dominion of Canada, or the Province of Ontario, may authorize and permit the diversion within the Province of Ontario of the waters of said river above the Falls of Niagara, for power purposes, not exceeding in the aggregate a daily diversion at the rate of thirty-six thousand cubic feet of water per second.

"The prohibitions of this article shall not apply to the diversion of water for sanitary or domestic purposes or for the service of canals for the purposes of navigation."

Two bills are now pending in the House of Representatives, to wit, H. R. 6746, introduced by Mr. Smith, of Buffalo, and H. R. 7694, introduced by Mr. Simmons, of Niagara Falls, the title of both bills being identical, namely, "To give effect to the fifth article of the treaty between the United States and Great Britain signed January 11, 1909." I understood it is the purpose of your committee to prepare legislation which shall be definite, final, and complete for the purpose of giving effect to Article V of the treaty, and that in preparing this legislation you will consider and reach a conclusion on the following questions:

(a) Is any legislation needed, or is the treaty self-acting?

(b) If legislation is needed, shall such legislation permit the diversion on the American side of all the water permitted by the treaty, or shall it restrict the diversion on the American side to the amount now diverted or to some other amount less than that permitted by the treaty?

(c) If the amount authorized by the treaty to be diverted on the American side, which is 4,400 cubic feet per second more than is authorized there to be diverted by the Burton law, how is the allotment of this additional 4,400 cubic feet per second to be determined; and what commission or department of the Executive Government is to determine this allotment and see that it is not exceeded?

(d) The treaty places no restriction whatever upon bringing into the United States the power generated on the Canadian side of the Niagara River. Is it desirable to place any such restrictions or is it better to allow the people of the United States to have the use of all the Niagara power that can be brought into the United States?

This matter has been before Congress for six years, but as this is the first time the matter has been brought before this committee it may perhaps save time and answer in advance a great many questions that would otherwise be asked, if I should state as briefly as possible the provisions of previous legislation and the situation at the Falls at the time that such legislation was enacted.

In the autumn of 1905 there were, then as now, four power companies¹ and five power houses at or near the Falls using the water from above the Falls. On the American side there were two New York corporations deriving their powers from the Legislature of the State of New York, namely, the Niagara Falls Power Co. and the company whose corporate name is now the Hydraulic Power Co. On the Canadian side there were three Canadian corporations, namely, the Ontario Power Co. of Niagara Falls, the Canadian Niagara Power Co., and the Electrical Development Co. (Ltd.). Three of these companies and four of the power houses and the works connected therewith were entirely owned by American citizens.

In 1905 the companies had made their plans and entered into contracts for the sale of the greater part or all of the following amounts of power, which by the laws then existing and by their agreements with the State and provincial authorities on both sides of the line they were fully authorized to make, as follows:

On the American side:	Horsepower.
Niagara Falls Power Co.....	85,000
Hydraulic Power Co.....	120,000
Total.....	205,000
On the Canadian side:	
Ontario Power Co.....	180,000
Canadian Niagara Power Co.....	110,000
Electrical Development Co. (Ltd.).....	125,000
Total.....	415,000
Total on both sides.....	620,000

The works of all of these companies at all five of the power houses were in various stages of progress, but all of them had been undertaken on plans calling for construction of the size above named, and all of them, as above stated, in compliance with the laws, ordinances, and franchises which had hitherto been granted by competent authority.

In the autumn of 1905 the statement was made in various papers that Niagara Falls had been partially ruined and soon would be completely destroyed by the power companies, and legislation was sought to preserve the Falls from this alleged danger. A bill for this purpose was introduced by Mr. Burton, then a Representative from Ohio and chairman of the Rivers and Harbors Committee, and after elaborate hearings during the session of six years ago this bill finally became a law on June 20, 1906. This law made it a misdemeanor, punishable by fine and imprisonment, to do certain things which up to the day before had been perfectly lawful. The things thus forbidden were:

- (a) To divert any water from the Niagara River.
- (b) To transmit any power from the Dominion of Canada into the United States without the written permit of the Secretary of War; and in granting such permits the Secretary of War was authorized to grant them for diversion of water on the American side only "to individuals, companies, or corporations

¹ There are two American and three Canadian corporations; but the Canadian Niagara Power Co. is entirely owned by the Niagara Falls Power Co., so that the number of independent companies is four.

which are now actually producing power from the waters of said river or its tributaries, in the State of New York, or from the Erie Canal," and to an amount in the aggregate not exceeding 15,600 cubic feet per second; and he was further limited in the matter of granting permits for the transmission of power into the United States by the provision "that the quantity of electrical power which may by permits be allowed to be transmitted from the Dominion of Canada into the United States shall be 160,000 horsepower."

The title of the law approved June 29, 1906, reads as follows: "An act for the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes."

In the hearings before the Rivers and Harbors Committee prior to the enactment of this law some question had been raised as to the right of Congress to control the waters of the Niagara River for any other purposes than that of navigation, and some doubt had been raised as to what particular clause of the Constitution gave to the Congress of the United States the right to enact legislation for the preservation of Niagara Falls. Therefore the fourth section of the law requested the President of the United States to negotiate with the Government of Great Britain "for the purpose of providing by suitable treaty with said Government for such regulation and control of the waters of Niagara River and its tributaries as will preserve the scenic grandeur of Niagara Falls and of the rapids in said river." These negotiations were promptly undertaken, and resulted in the treaty which was signed, ratified, and proclaimed on the dates above named.

As the act of June 29, 1906, was intended only to take care of the situation until the treaty should be negotiated and ratified, section 5 of the law enacted that the "provisions of this act shall remain in force for three years from and after the date of its passage." When the three years expired the treaty, although signed, had not been ratified by both parties, and therefore the provisions of the law were extended for two years, or until June 29, 1911. In the last session of the Sixty-first Congress resolutions were introduced for extending the Burton law, and bills were introduced for giving effect to the fifth article of the treaty, but none of them passed, and thus the Burton law expired on June 29, 1911.

On the last day of the special session, namely, August 22, 1911, a joint resolution was adopted reviving, reenacting, and extending the provisions of the act of 1906 to March 1, 1912.

One of the provisions of the Burton law of 1906 authorized the Secretary of War, in his discretion, to grant revocable permits for the diversion of water in excess of 15,600 cubic feet per second "to such amount, if any, as, in connection with the amount diverted on the Canadian side, shall not injure or interfere with the navigable capacity of said river or its integrity and proper volume as a boundary stream, or the scenic grandeur of Niagara Falls." In order that the Secretary of War might be advised as to the probable effect of these diversions and could intelligently exercise his discretion as to granting such revocable permits for additional diversions, instructions were sent early in 1907 to the officer in charge of the lake survey directing him to make observations and to report from time to time the result of such observations and measurements, so as to show the effect of such diversions upon:

- (a) The navigable capacity of said river.
- (b) Its integrity and proper volume as a boundary stream.
- (c) The scenic grandeur of Niagara Falls.

The reports made in compliance with these instructions have been transmitted to Congress and are embodied in Senate Document No. 105 and House Document No. 246, of the present Congress.

Briefly, the reports of the engineers are to the following effect:

- (a) As to the navigable capacity, they say (Doc. No. 246, p. 12), that the diversions referred to:

"Will not injure or interfere with the navigable capacity of the Niagara River."

- (b) As to the integrity and proper volume as a boundary stream they say (same page):

"It is not apparent that the river through these diversions has suffered."

- (c) As to scenic grandeur (same page):

"It may be considered that the changes on the American Fall are unimportant."

In other words, the effect of the diversions does not interfere with the navigation of the Niagara River, does not injure its integrity and proper volume as a boundary stream, and does not injure the American Fall.

The engineers, however, report (H. Doc. No. 246, p. 13) that the effect of these diversions is to cause a lowering of Lake Erie which, though slight, in their opinion "Can not be considered negligible," and they also find that there has been a lowering at the eastern and western ends of the Canadian Fall, as to which they say:

"While natural causes have been chiefly instrumental in effecting these changes, it appears indisputable that the artificial diversions of the power companies have materially added to the 'injury or interference with the scenic grandeur of Niagara Falls.' Additional diversions, now contemplated, will increase this damage."

In other words, then, they find that these diversions have affected the level of Lake Erie and have contributed to the injury of the scenic grandeur of Niagara Falls, the greater part of which has been produced by natural causes.

As to the lowering of Lake Erie, it is measured in fractions of 1 inch. The calculations are of a most complicated, scientific character. So far as I know, this is the first attempt to study the hydraulics of a great river with a view to determining in specific quantities the effect upon the level of the lake which discharges into that river, of diverting a small portion of the flow at a point over 20 miles below the lake, during which distance the river falls about 11 feet. The result is extremely interesting from a scientific standpoint, but it can hardly be considered as final and conclusive; for whereas it has taken the observations of 40 years to determine within an error of 1 to 2 per cent the relation between the level of the lake and the volume of discharge of the stream, these results undertake to define the variation in the discharge of Lake Erie to within one-third of 1 per cent, and they are based upon two series of observations, each of 10 days' duration, during one of which the American power houses were shut down and during the other were in operation.

Theoretically the dropping of a stone into the pool of still water above Niagara Falls would create a ripple which would travel back to Lake Erie, and could there be measured in millionths of an inch if there were any instruments capable of such measurement. The measurements in this case are in fractions of an inch. The report of Gen. Bixby, Chief of Engineers, dated October 14, 1911 (p. 1114), says that the effect upon Lake Erie of the increased diversions since 1906 has been one-fourth of an inch. The report of Lieut. Col. Riché (H. Doc. No. 246, p. 12), says that the total effects of the present diversions are the lowering of Lake Erie $1\frac{1}{2}$ inches. The report of Mr. Shenahon, principal assistant engineer (S. Doc. 105, p. 49), which accompanied Maj. Keller's report, dated November 30, 1908, says that "the measurements of the Lake Survey have shown with certainty that changes in outflow of the Niagara River have had no appreciable effect toward lowering Lake Erie in the past 10 years."

The sum and substance of these reports is, that while there has been a minute change in the level of Lake Erie, it is so small that it has had no appreciable effect upon navigation. This was the testimony of Gen. Bixby at your hearing on Tuesday last. The navigable waters of the United States are in the charge of the Army engineers, under the direction of the Secretary of War. These engineers are, on the subject of navigable waters and navigation thereon, the first experts in the country. I think your committee may safely dismiss from your minds any apprehension that the navigation on the navigable waters of the United States is in any slightest degree injured or affected by such diversion of water in the Niagara River as is permitted by the treaty now in force.

As to scenic grandeur, that is not a question of engineering. Engineers have reported that while there is practically no change on the American Fall, there have been changes on the Canadian Fall amounting to a lowering of 15 inches at the Canadian end and $3\frac{1}{2}$ inches at the Goat Island end of that fall (H. Doc. No. 246, p. 13). Of this they attribute approximately two-thirds to the diversions of water and one-third to the breaking away of the apex of the Horseshoe Fall. They say that this has resulted in (H. Doc. No. 246, p. 13) "a marked interference with the continuity and length of crest line, unquestionably marring the natural beauty of this cataract."

The facts here stated, namely, a total lowering of 15 inches, are not disputed, although it should be noted that the gauge readings from which these facts are deduced show a variation of as much as 5 feet in the course of the year and as much as 3 to 4 feet in as many successive days. It probably will require a longer series of observations to determine with absolute certainty the precise extent, in inches, of the decrease in depth at the crest of the Falls due to the diversion of water for power purposes. Meanwhile, the determinations above quoted are the best we have and are not disputed.

As to the opinion formed by the engineers from a consideration of these facts, there is, however, a very wide difference. The Falls vary from day to day, according to the wind and the weather. An east wind will diminish the volume of the Falls by an amount greater than all the diversions of water for power purposes which are possible under the treaty. The bright sunshine in summer will bring forth that marvelous emerald tint at the point of greatest depth in the Horseshoe Fall concerning which so much has been written, and at the same time will show in dazzling white the purity of the American Fall. Cloudy days, rainy days, snowy days, all have their different effects, and frequently, in times of extreme low temperature at the close of a long winter, with much ice coming out of the lake, the American Fall is absolutely dried up, and people have walked across the bed of the river between Goat Island and the main shore. There is a well-authenticated case of this 50 or 60 years ago, before diversion of water for power purposes was ever thought of.

Now, the point that I would like to impress upon your minds is this: That the Falls vary in appearance from day to day and month to month and year to year; yet under similar circumstances of wind and weather there has been no change in their appearance which can be detected by the eye, except at the apex or point of the Horseshoe. At that point the crest is receding at the rate of over 5 feet per annum (S. Doc. No. 106, p. 32), and those of us who first saw the Falls 40 years ago can detect the change in the shape of the crest. It is more pointed now than it was then; but no other change is perceptible under the same conditions of wind and weather. It is the constant remark of visitors who come to the Falls that the appearance of the Falls is just what it was when they saw them years ago; or, by those who see them for the first time, the remark is one of surprise that the Falls are so beautiful in view of the statements scattered broadcast that they had been practically ruined. Several western governors recently visited the Falls and gave expression to these opinions.

Scenic grandeur appeals to the imagination, to the emotions; it appeals differently to different people. You will find all kinds and varieties of opinions concerning it, and you will also find many shades and varieties of opinions as to whether scenic grandeur should be allowed to interfere with the industries and prosperity of citizens of the United States. Lord Kelvin, several years ago, as I am told, expressed the opinion that if these Falls were needed for the benefit of mankind, all of their potential energy should be so utilized; and on the other extreme, Mr. McFarland, the president of the American Civic Association, would probably tell you that he thinks that a Nation which is rich enough to build the Panama Canal is rich enough to buy up every power plant at Niagara Falls, destroy them, and stop the use of a single drop of water for power purposes.¹ Between these extremes some compromise must be reached. The existing treaty was under negotiation for more than two years, and I imagine that the chief cause of delay was a desire to find a fair compromise. The language of Article V of the treaty intimates this. I believe it may fairly be taken for granted that the limitations named in the treaty are about right, and that the full amount of diversion on both sides of the river, namely, 56,000 cubic feet per second, can be taken without appreciably affecting the scenic grandeur of the Falls. This, however, is the very question which your committee is to decide, namely, whether the limitations of the treaty are to prevail, or whether further and additional limitations and restrictions are to be imposed.

In considering this question, however, I wish to call your attention to the fact—and I do not think this will be disputed by any intelligent man who is familiar with the subject—that the sole effect of any restriction on the bringing of power from Canada into the United States is to drive American industries into Canada. This restriction on transmission was inserted in the Burton law on the theory that if the power was not transmitted into the United States it could not be sold in Canada, and therefore in this way a limitation could be imposed on the use of Canadian water for power purposes. This theory is

¹ The opposing considerations as between utility and scenic grandeur are fairly well stated by the engineers in the following language (S. Doc. No. 106, p. 75):

"The great companies at the Falls have created in good faith power plants to lessen the hardships of human labor, to aid transportation, to illuminate the night hours, and to add to the wealth of two Nations. The power houses for the most part are architecturally excellent, harmonizing with the scenic surroundings, and the mechanical wonders wrought in solving the engineering problems of the utilization of this great head and volume of water rival as a spectacle the scenic grandeur of the Falls and add to the attractiveness of the region.

"It therefore appears proper to permit and foster such ultimate developments in addition to those already in force as are compatible with the perpetuation of the scenic grandeur appreciably undiminished."

entirely fallacious. At the time the Burton law was enacted only two of the Canadian power houses were in operation, and the total amount of Niagara power sold in Canada was less than 3,000 horsepower, as follows:

	Horsepower.
Ontario Power Co.....	250
International Railway Co.....	1,200
Canadian Niagara Power Co.....	1,340
Total.....	2,790

At the present moment the sales of Niagara power in Ontario are nearly 90,000 horsepower, as follows:

	Horsepower.
International Railway Co.....	1,500
Canadian Niagara Power Co.....	500
The Ontario Power Co.....	45,000
Electrical Development Co. (Ltd.).....	40,000
Total.....	87,000

In other words, there has been a growth in less than six years of from 3,000 to nearly 90,000 horsepower, and there is no sign of any abatement in this growth.

The three power houses on the Canadian side are situated in Queen Victoria Niagara Falls Park, a beautiful park which has been created from the proceeds of the amounts paid by these power companies to the government of Ontario by way of rental for the occupation of lands and payment for privileges granted. The agreements between the Ontario government, represented by the park commissioners, and the power companies provide that, if required in Canada, one-half of the power generated at these power houses shall be reserved for the use of Canadians. The other half can be exported to the United States. The charter of the Ontario Power Co. granted by the Dominion of Canada contains an express provision that its power may be transmitted into the United States, and this interpretation of the charter right has been explicitly stated in a decision of the supreme court of Canada bearing on this subject. This unlimited right to take the power to the United States, however, has been diminished to the right to transmit one-half of the power (instead of the whole) by the agreement with the park commissioners above referred to.

Now, the plans have been approved by the park commissioners for the construction of works of the following capacity:

	Horsepower.
Ontario Power Co.....	180,000
Canadian Niagara Power Co.....	110,000
Electrical Development Co. (Ltd.).....	125,000
Total.....	415,000

and, while none of the power houses is completed to that ultimate capacity yet, each of them is about two-thirds completed, and work is at the present moment progressing on the remaining one-third.

One-half of the total amount is 207,500 horsepower. In a little more than five years Canada has absorbed practically 90,000 horsepower of this. Undoubtedly it will absorb the remaining 117,500 horsepower. The amount which can be taken into the United States under the provisions of the contracts with the park commissioners is the remaining one-half, to wit, 207,500 horsepower. The Burton Act allows the transmission of 160,000 horsepower, so that all that is in question, if you remove every restriction in regard to the transmission of power into the United States, is 47,500 horsepower.

In 1906-7, after elaborate hearings, the Secretary of War, Mr. Taft (now President of the United States) allotted, under the provisions of the Burton Act, the 160,000 horsepower allowable to be transmitted into the United States as follows:

	Horsepower.
Ontario Power Co.....	60,000
Canadian Niagara Power Co.....	52,500
Electrical Development Co.....	46,000
International Railway Co.....	1,500
Total.....	160,000

The amount actually transmitted at present is as follows:

	Horsepower.
Ontario Power Co.....	51,000
Canadian Niagara Power Co.....	52,500
Electrical Development Co.....	
Total	103,500

The load of the Ontario Power Co. fluctuates from day to day and on any day may go to 60,000 horsepower, the full amount of the permit. The Canadian Niagara Power Co., having plants on each side of the river which are interconnected, is enabled to so operate them as to keep a steady load on its Canadian plant practically at the full amount of its permit.

It is probable that a representative of the Electrical Development Co. will be present to give the reasons why the permit granted to that company has not been utilized.

So far as the Ontario Power Co. in Canada and the Niagara, Lockport & Ontario Power Co. in New York State are concerned the situation is as follows:

We are now taking into New York 60,000 horsepower and distributing it among a population of more than 1,000,000 people, extending from Syracuse and Oswego on the east, through Auburn, Rochester, Batavia, Lockport, the suburbs of Buffalo, to Dunkirk on the west. If the restrictions on the transmission of power from the Canadian side are removed, we shall be able to increase the amount of power distributed through these various cities by one-half; that is, to 90,000 horsepower. If these restrictions are not removed this additional 30,000 horsepower will speedily be sold in Canada.

Referring then to the questions which I understand you are considering, which were enumerated at the beginning, and for convenience, may now be repeated as follows:

(a) Is any legislation needed or is the treaty self-acting?

(b) If legislation is needed, shall such legislation permit the diversion on the American side of all the water permitted by the treaty, or shall it restrict the diversion on the American side to the amount now diverted or to some other amount less than that permitted by the treaty?

(c) If the amount authorized by the treaty to be diverted on the American side, which is 4,400 cubic feet per second more than is authorized there to be diverted by the Burton Law, how is the allotment of this additional 4,400 cubic feet per second to be determined, and what commission or department of the Executive Government is to determine this allotment and see that it is not exceeded?

(d) The treaty places no restriction whatever upon bringing into the United States the power generated on the Canadian side of the Niagara River; is it desirable to place any such restrictions, or is it wise to make any such restrictions, or is it better to allow the people of the United States to have the use of all the Niagara power that can be brought into the United States?

I venture to suggest, in response to the courteous invitation of your chairman, that I be present and address the committee as follows:

Legislation is necessary.

The diversions of water on the American side should be not less than the amount named in the treaty. The allotment should be made by the Secretary of War after hearings and with the consent of the State of New York and the commissioners on the part of the United States in the international joint commission provided for by the treaty.

All restrictions on the transmission of power from Canada to the United States should be removed.

These are the provisions of the bill (H. R. 7694) introduced by Mr. Simmons of the Niagara Falls district and now before you. They are identical with the provisions of a bill (S. 1940) introduced by Senator Root and now pending in the Senate.

The provisions of the bill (H. R. 6746) introduced by Mr. Smith of the Buffalo district, differ in two respects:

(1) As to diversion, the Secretary of War is to issue the permit, but in one block to the State of New York, by whom it is to be allotted to the individuals or corporations who are to use it. This difference is a matter of form rather than substance, but I should think that the method named in Mr. Simmons's bill will prove a better working program than that named by Mr. Smith. The ultimate effect is the same.

(2) As to transmission of power from Canada into the United States, Mr. Simmons's bill, following the provisions of the treaty, is silent, and as the Burton resolution will expire with the enactment of the legislation you now have in contemplation, and as nowhere else except in the Burton act is there any restriction on bringing power from Canada into the United States, it follows that if you adopt Mr. Simmons's bill, all restrictions on bringing power from Canada into the United States (so far as United States laws are concerned) will disappear.

On the other hand, Mr. Smith's bill contains elaborate provisions the purpose of which was to insure that the consumer in the United States should pay no higher price for power than is paid by the consumer in Canada under like conditions and at equal distances from the Falls. I think that Mr. Smith's bill was drafted under a misapprehension as to the facts. I do not believe that he or any member of this committee intends that several millions of dollars of capital invested in good faith by American citizens shall be deprived of any return or profit whatsoever. Yet such would be the effect of Mr. Smith's bill if adopted. What has happened in the Province of Ontario is this: The Province has created a government body entitled "the hydroelectric power commission," with very extensive powers for the purpose of generating or buying and transmitting Niagara power to various municipalities in the Province, and the essence of the law is that there shall be no profit whatsoever to the commission. When the law was passed the commission considered the construction of its own power plants in which to generate power, but before taking any active steps in that direction it applied to the different power companies for prices, and after long negotiations it did make a contract with the Ontario Power Co. for such amounts of power, not less than 8,000 nor more than 100,000 horsepower, as it might require during a period of 30 years. The price named was, in the opinion of the commission, not much in excess of what it would cost them to generate their own power, and therefore they decided not to build their own power plant, but to make the contract above referred to. Having made this contract, the commission proceeded to borrow, on the credit of the Province, nearly \$4,000,000, and it sold its 4 per cent bonds at 102½. It entered into contracts with nearly 30 municipalities for varying amounts of power, and it is stipulated in each contract that the price which the municipality is to pay for the power is the sum total of the price paid by the commission to the Ontario Power Co., plus actual expenses of operating the transmission lines, interest on the bonds, sinking fund, maintenance, and depreciation, but without any profit whatsoever to the commission. The \$4,000,000 realized from the sale of the bonds was used to build stations and transmission lines to all the towns and villages between Niagara Falls and Toronto on the east and London and St. Thomas on the west.

You will thus see that the Ontario Power Co. sells to the Province of Ontario which is its landlord, a certain amount of power delivered at the wall of the powerhouse at the generator voltage; the same company sells to the Niagara, Lockport & Ontario Power Co. another amount of power at a distance of 6 miles from the powerhouse wall and at a voltage of five times the generator voltage. The Niagara, Lockport & Ontario Power Co. buys this power at the international boundary line and distributes it through about 450 miles of transmission lines in western New York, covering the territory between Syracuse and Oswego on the east and Dunkirk on the west, as above stated. In the purchase of land and the construction of stations and transmission lines, the Niagara, Lockport & Ontario Power Co. has invested nearly \$9,000,000. Its bonds bear interest at 5 per cent and they had to be sold at a considerable discount.

I trust that I have made it clear that the conditions on the two sides of the Niagara River are entirely unlike. On the one side is a Government commission owning the transmission facilities, which have been constructed on the credit of the Province of Ontario and on a basis of less than 4 per cent, and in pursuance of a law the fundamental principle of which is that there shall be no profit. On the American side is a commercial corporation covering nearly twice as much territory, whose transmission lines have been constructed with money costing practically 6 per cent. I am sure that this committee will not deny to the owners of the Niagara, Lockport & Ontario Power Co. a reasonable return upon their investment. The company has as yet paid no dividends on its stock. The interest on its bonds has been promptly paid, but the large equity in the property over and above the proceeds of the bonds has yet had no return whatsoever. This, I think, might be considered as one proof that its charges were not exorbitant. Another proof, perhaps equally convincing, is that while

this New York corporation operates the trolleys on nearly 500 miles of railroad and supplies the current for lighting and other miscellaneous public uses in many cities throughout western New York, no complaint has ever been made that its charges were not just, fair, and reasonable.

Now, I venture to suggest for the consideration of your committee that it is no part of the business of the United States to regulate prices on electricity within the different States. That is a subject which belongs to the States themselves, and the State of New York in particular has fully met the case by appropriate legislation. The first and most important act of Gov. Hughes's administration when he became governor of New York in January, 1907, was the creation of two public-service commissions, one for the city of New York (which contains about one-half of the population of the State) and the other for the rest of the State. The law is known as the public-service commissions law, and you will find it in the volume of New York Statutes for 1907. I have brought and now submit for the information of the committee a copy of the law in pamphlet form. You will find by referring to sections 71 to 75, pages 73 to 76, that the public-service commissions have full and complete power to regulate, fix, and establish the prices at which electricity shall be sold within the limits of the State of New York. If any municipality or any reasonable number of citizens are dissatisfied with the price at which electricity is sold, they can complain to the public-service commission, and it is then mandatory upon the commission to hear such complaint, to make a finding of fact, and if the finding be that the prices are unreasonable, then they are to fix a reasonable price, and the corporation which does not comply with their order is subject to heavy penalties. Ample provision is given in the law to enable the commission to carry its orders into effect.

The public-service commission of the second district, State of New York, has complete jurisdiction at every point in the State where Niagara power is at present being used or to which it can be transmitted. This law has been in operation now for nearly five years. It has given entire satisfaction, not only to the consumers of power and light, but, so far as the second district at least is concerned, to all the corporations which are under the jurisdiction of the commission.

In short, then, the State of New York has provided a tribunal with ample jurisdiction over the matter referred to in the provisions of Mr. Smith's bill. This tribunal is fully established. It is in operation. It has the confidence of the community of all classes, and incidentally, I may say it is now considering a complaint from the city of Buffalo that the prices at which electricity is sold in that city are unreasonable. No other complaint has been lodged with them from any other community which uses Niagara power. If such complaint should be lodged, they would immediately proceed, as they are required to do by the law, to hear it and to provide the remedy if on the hearing the complaint is sustained.

It will thus be seen that the State of New York has already enacted complete legislation for controlling the prices of electricity. It has established proper tribunals, clothed them with power to enforce their decrees, and established an administrative system which is now in full working order with satisfactory results to all concerned.

FRANCIS V. GREENE.

JANUARY 18, 1912.

STATEMENT OF EDWARD T. WILLIAMS.

Mr. WILLIAMS. I am from Niagara Falls. I represent the city of Niagara Falls. I am here simply to say upon the authority of the mayor of Niagara Falls that we living at Niagara Falls and along the Niagara River regard ourselves as the most jealous guardians of the scenic beauty of this great cataract and that, having seen this power development from its inception, I am of the opinion that there has been no appreciable effect upon the flow of the river or upon the beauty of the falls. The attitude of the city of Niagara Falls is that it believes that water can be diverted up to the limits proposed or incorporated in the treaty without having any appreciable effect upon the flow of the river or upon the beauty of the falls.

Mr. Chairman, that is practically all I have to say.

The CHAIRMAN. I would like to ask you a couple of questions. The people of Niagara Falls, as I understand it, have no objection to the Government giving this additional 4,400 feet?

Mr. WILLIAMS. That is their position, as I understand it.

The CHAIRMAN. And they would like to have the restriction regarding the importation from Canada removed?

Mr. WILLIAMS. Yes, sir.

The CHAIRMAN. You doubtless have looked over both bills before this committee. Which bill do you prefer?

Mr. WILLIAMS. Why, I have not reached any conclusion in the matter. I am simply here to say on behalf of that city that we desire the treaty to be fulfilled.

Mr. LEGARE. One of your principal duties is to bring conventions to Niagara Falls to see the place?

Mr. WILLIAMS. No, sir; no, sir; to encourage industry.

Mr. COOPER. It is a matter of industrial and commercial development, is it?

Mr. WILLIAMS. Yes, sir.

The CHAIRMAN. There is more or less typhoid fever at Niagara Falls, is there not?

Mr. WILLIAMS. There has been some.

The CHAIRMAN. And that is on account of the pollution of the waters?

Mr. WILLIAMS. Yes, sir.

The CHAIRMAN. How, in your judgment, could that best be stopped?

Mr. WILLIAMS. I would say that the city has now installed a new water works and filtration plant which has had some good effect and will have more.

The CHAIRMAN. Do you think it would be a good idea for Congress to confer upon the National Waterways Commission the right to do everything in its power to stop the pollution of the waters between Canada and the United States?

Mr. WILLIAMS. I am in favor of stopping not only the pollution of the waters between Canada and the United States, but also the waters of Lake Erie.

The CHAIRMAN. And that is very important?

Mr. WILLIAMS. Yes, sir.

The CHAIRMAN. If you have any views upon that subject, we would like to have you give them to the committee.

Mr. WILLIAMS. I think—I have been here before to confer with the Surgeon General of the Army—

Mr. COOPER. For what purpose?

Mr. WILLIAMS. For the stoppage of the pollution of the waters.

The CHAIRMAN. And the consequence is that in Erie, Pa., for instance, the people have epidemics of typhoid?

Mr. WILLIAMS. Yes, sir; we think that is an uncivilized way to dispose of sewage.

Mr. COOPER. Berlin derives large revenue from its sewage system.

Mr. WILLIAMS. Yes, sir.

STATEMENT OF MR. MORRIS COHN, JR., OF NIAGARA FALLS, N. Y.

Mr. COHN. I represent, as counsel, the Hydraulic Power Co. of Niagara Falls. That company is the owner of the hydraulic canal, which was constructed in about the year 1853, and this company and its predecessors have been conducting power works under a claim of riparian rights ever since without criticism, except that the State of New York, claiming as a riparian owner, made some objection to the use of water without its permit and it, as has been stated, gave by grant to the Hydraulic Power Co. the right to take such water as would be necessary for the purposes of its canal.

Mr. COOPER. You have not been generating electric power all the time during that 50 years?

Mr. COHN. No, sir.

Mr. COOPER. What was it before that?

Mr. COHN. Just mill rights; hydraulic power and mill race. The plant of this company is the oldest along the Niagara River. It has the greatest equities and interests in this legislation; it has as lowest riparian owner the strongest legal rights; and therefore I think it is quite proper that it shall have the least to say.

In 1902 the International Waterways Commission was authorized to investigate the subject of Niagara River power development.

In 1906, as the forerunner of the Burton Act, the International Waterways Commission made a report, in which it recommended that the Secretary of War be authorized to grant permits for the diversion of 18,500 cubic feet of water per second and no more from the waters naturally tributary to Niagara Falls. It was recommended in that report that 18,500 cubic feet per second be allowed to be diverted at Niagara Falls, as that could be allowed without injuring the scenic beauty of the Falls, and of that amount 9,500 cubic feet per second be allowed my client. It also recommended that 36,000 cubic feet should be diverted on the Canadian side. The matter coming before the Rivers and Harbors Committee of this House, they made a report in which they recommended that, instead of 18,500 feet, 15,600 feet be so diverted. The result of it was that the Niagara Co. got 8,600 feet and the Hydraulic Co., instead of getting 9,500 feet, got 6,500 cubic feet per second.

In a report which accompanied the bill it was stated that the final settlement of the matter must rest until the result of diplomatic negotiations be embodied in a treaty, but that it was, however, necessary that legislation should be enacted to furnish a basis for diplomatic action. That was all that the Burton Act was intended to cover—to hold the matter in statu quo until the respective countries could get together and confer about a treaty.

Section 4 of the Burton Act provides:

That the President of the United States is respectfully requested to open negotiations with the Government of Great Britain for the purpose of effectually providing, by suitable treaty with said Government, for such regulation and control of the waters of Niagara River and its tributaries as will preserve the scenic grandeur of Niagara Falls and of rapids in said river.

Negotiations have ripened into a treaty and the Burton Act still remains. We think that it is unfair that this act should remain on the statute book after the purpose it was intended to serve has been accomplished. The act provided specifically that it should be in

effect for the term of three years, and then it was continued for two years more. So that it was never the purpose of the law that we should be deprived forever of the right to apply for additional water. The temporary reason having gone by, Congress should discontinue the act.

Mr. COOPER. How much water did your company divert 20 or 25 years ago?

Mr. COHN. Oh, a very much less amount. It was not until after the electrical development that the diversions became large; I don't know; I would not say exactly how much.

Mr. COOPER. Before the State of New York took action, were you at any time using as much as you are using now?

Mr. COHN. Oh, no; the growth of electrical development has increased the use of water.

Mr. COOPER. How far above the precipice do you divert the waters?

Mr. COHN. Port Bay, three-quarters of a mile above the Falls. Passing the question of whether we have the legal right, which has been argued here so forcibly (and, I think, well), because we have for years diverted water as riparian owners, and as the Supreme Court of the State of New York has said, that was a corporeal hereditament which was like a rock or a tree, we say Congress should give to some tribunal the right to grant permits to the amount of the additional 4,400 cubic feet per second.

Mr. COOPER. What competition is your company getting on the American side with any other company?

Mr. COHN. We are in direct competition with the Niagara Falls Power Company.

Mr. COOPER. Both use the water?

Mr. COHN. Yes, sir.

Mr. COOPER. Is there any competition as to the volume of business or as to the rates charged?

Mr. COHN. I think both. I think the people who come to Niagara Falls for electric power go to one company and then to the other, and make the best bargain they can.

Mr. COOPER. Is there any identity on the board of directors?

Mr. COHN. No; not the slightest.

Mr. COOPER. There is a competition?

Mr. COHN. Well, a competition as competition goes in such matters.

Mr. COOPER. You would not call it real, fierce, cutthroat competition? [Laughter.]

Mr. COHN. I don't think there is anything like that. I think it would be absurd when they make contracts for 20 or 25 years. People might go into cutthroat competition for 20 days.

Mr. COOPER. Has your company been prosperous financially?

Mr. COHN. Very.

Mr. COOPER. So that you don't need the additional water to enable you to succeed financially?

Mr. COHN. No, sir; I don't say that. I say that while we can do without it, the people need it.

Mr. COOPER. And at the same time you say it would not hurt the Falls?

Mr. COHN. The 4,400 feet, let me explain, comes from the same place that any diversion would come from on the Canadian side, and it is perfectly absurd to allow the Canadians to develop to the extent of 36,000 feet and say that the Americans shall not take 20,000 feet.

Mr. GARNER. That is the point I am glad you brought out.

Mr. COHN. It all practically comes from the Canadian side. There is no report of any engineer which says that any diversion on the Canadian side affects the American Falls. Now, the water at the apex of the Falls is nearly 18 feet deep. Who could look at it and tell whether it was 10 feet deep or 8?

Mr. COOPER. There is a black rock—

Mr. COHN. That has always been so.

Mr. COOPER. The point is, how far can you go? The only question is how far can you go?

Mr. COHN. That is the point; the people of Niagara Falls are just as anxious to preserve the scenic beauty of the Falls as anybody else. There are many people who are dependent on the traffic caused by the tourists coming, and yet favor this legislation. I have in mind the Gorge Railroad, which was represented here day before yesterday. There is no one who understands the situation who says the Falls are going to be ruined if this additional diversion is permitted.

Mr. GARNER. Well, you do appreciate the caution?

Mr. COHN. I think that is proper. This matter has been before Congress for a number of years, and I think it has been very cautious.

Mr. DIFENDERFER. To whom do you furnish this power? Do you sell any of it directly to the consumer in the city of Buffalo?

Mr. COHN. No, sir; we do not transmit any of it outside of Niagara Falls. It is only used for the immediate market.

Mr. DIFENDERFER. You do not furnish any power to any other transmitting company?

Mr. COHN. Not in the city of Buffalo. Just in the city of Niagara Falls; we just sell it to distributing companies in the city.

Mr. LEGARE. I see here article 5 goes on to say:

It is the desire of both parties to accomplish this object with the least possible injury to investments which have already been made in the construction of power plants on the American side of the river, and on the Canadian side of the river in the Province of Ontario.

Have you given any thought to that part of the treaty, as to any legislation we may pass as to limitation of importation of power from Canada into the United States? Do you catch my idea?

Mr. COHN. I do not.

Mr. GARNER. I understand that the law of Canada is to the effect that you can only import one-half of the power created over there—so that they have to make laws protecting their interests?

Mr. COHN. Yes, sir.

Mr. LEGARE. Yes; but suppose we should pass some law prohibiting that, wouldn't it be in conflict with this treaty?

Mr. COHN. Your point is that if we continue this prohibition we are running contrary to the treaty?

Mr. LEGARE. That seems so to me.

Mr. COHN. You will excuse me from talking about prohibition of importation. That is for the other fellows to talk about. I am not interested in the question of importation from Canada, because the

more that is imported the more it comes into competition with us. I am not quite through. I just want to say that in Gen. Greene's printed statement here, on page 8, he gives conditions on the Canadian side and conditions on the American side. On the American side he gives the actual development, and on the Canadian side he gives the authorized development. He says, "The hydraulic company is authorized to develop 120,000 horsepower," but that statement is not exactly as I understand the facts to be.

Gen. GREENE. That was what I understood you to create. That was 120,000 to 130,000 horsepower. That's the impression I intended to convey, but possibly I have conveyed a wrong impression. That is what you have produced.

Mr. COHN. You will find that any request to our company that has been made by the government officers or the scenic preservation committee has been made promptly and satisfactorily honored.

Mr. COOPER. What is the plan of the establishments using your power?

Mr. COHN. Oh, we sell power to the Wm. A. Rogers Co., silver platers; to the Carter-Crume Co., which makes check books; the Electro-Metallurgical Co.; the United States Light & Heating Co., which makes batteries—there are about 60 customers.

Mr. COOPER. How many of those are 24-hour companies?

Mr. COHN. Practically all of them—all the large users. If they can use the power 24 hours a day that makes it economical. Some of those plants could never have been established without the 24-hour service. Now, as to this point about the peak of the load, that has been mentioned. The language of the treaty, which is in the Smith bill, is intended to cover the larger use between the hours of 6 and 8 o'clock in the evening, when railway and lighting service is heaviest, but Mr. Barton can speak better than I can on that.

Mr. DIFENDERFER. What is the minimum charge to those 24-hour plants?

Mr. COHN. I don't know that I am fully acquainted with that except as to some contracts I have drawn in late years. It varies according to the manner of its use. If they take on the kilowatt-hour basis, that is one rate; if it is taken for 10 years, that is another rate; and if it is taken in horsepower quantities, that is another rate.

Now, the public-service commission of the State of New York had a meeting at Albany the other day in which it was decided that the electrical companies shall file rates the same as railroad companies.

Mr. DIFENDERFER. Could you give us the minimum charge on the horsepower basis?

Mr. COHN. About \$16 to manufacturers.

Mr. DIFENDERFER. Then there is a maximum rate?

Mr. COHN. I don't think I have drawn any contracts higher than \$16 or \$18. Perhaps I had better be entirely frank and say that there are one or two companies using large amounts that have a substantially lower rate. Now, the public-service commission is going to compel us to file rates the same as railroads.

Mr. GARNER. The power companies then are entirely satisfied with the commission and with its workings, up to date?

Mr. COHN. They have got to be. [Laughter.]

Mr. DIFENDERFER. And you are entirely satisfied with the rates laid down?

Mr. COHN. Well, we are not kicking about that. Those who are in favor of bankrupt corporations have different views from ours.

The CHAIRMAN. Mr. Cohn, if you have any data that you desire to submit as a part of your remarks, you may submit them.

Mr. COHN. Not at all. We want some legislation and that is all.

The CHAIRMAN. In regard to the disposition of the 4,400 feet of additional water, do you think the power should be lodged in the Secretary of War or in the public service commission of the State of New York?

Mr. COHN. I think that we ought to have it. [Laughter.]

The CHAIRMAN. Yes; but who should dispose of it?

Mr. COHN. I haven't any choice or any views. We think that we ought to have it anyway.

A MEMBER. You would not advise Congress to legislate that you should have it?

Mr. COHN. I don't think that. I stated a year ago that we should have it.

The CHAIRMAN. But if you can not have it, you are willing that somebody else should?

Mr. COHN. I say it would be very unfair on the part of Congress to legislate for navigation or national defense, or even for the benefit of scenic beauty, and under guise of such purpose attempt to take away from us what is ours at common law, and turn it over to someone else.

Mr. COOPER. Do you think a commission should be created to establish rates?

Mr. COHN. Well, we have one in New York.

Mr. COOPER. Do you think it is a good idea to sell to a 20,000-horsepower consumer at a less rate?

Mr. COHN. Yes, sir.

Mr. COOPER. Why, he could manufacture his gas for less?

Mr. COHN. I don't think there is any competition in that business.

Mr. COOPER. Not there; that is one of the reasons. [Laughter.] That is exactly what was the trouble with railroad rebates. The great big fellow drove the other fellow out of business any time he wanted to.

Mr. COHN. That certainly is rectified for the few by the public-service commission of the State of New York; but if a man comes to us and says: "Here, I want to buy power," it has been a question of individual bargaining.

The CHAIRMAN. Thank you, Mr. Cohn. We will now hear from Mr. A. C. Morrison, of Chicago.

STATEMENT OF MR. A. C. MORRISON.

Mr. MORRISON. I represent the Union Carbide Co., of Niagara Falls. I am neither engineer nor lawyer, but my company is a user of the power at the Falls and has been a rapidly developing user of power there. I can not speak for the electric-furnace industry as a whole, but I think it is fair that I be allowed to bring before this committee a general picture of the electric-furnace industry, especially as I believe that my company is the largest user of power at Niagara Falls, which is the center of electric-furnace development in this country. We have developed in the last few years very rap-

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**LAKE
ONTARIO**

246'
above sea level

**FT. NIAGARA
YOUNGSTOWN**

LEWISTON

NIAGARA FALLS

LA SALLE

GRAND ISLAND

CANADA

BUFFALO

LAKE
ERIE

573'
above
sea
level

NEW HARBOUR

CAZENOVIA CH

SMORE'S CREEK

idly, from a very small beginning to our present status. I think it is fair to state that our power requirements are increasing several thousand horsepower per annum. The problem of securing that additional power is a grievous one. Water power seems to be more theoretical than practical. Water power, located advantageously, as is the case at Niagara Falls, where vast quantities of raw materials can be economically assembled and distribution of finished products easily accomplished, is an essential strategic advantage to the very heavy and important electric-furnace industry—at Niagara Falls especially, because of the opportunity which their superb development gives the American manufacturers to meet foreign competition and develop exports.

The electric-furnace industry was born of the last very few years, and it has grown from a crude beginning to a very powerful factor in the advance of American manufactures, and is essential in some lines to American commercial success. Its development is continually increasing, and new uses for the products of the electric furnace are being discovered almost daily. My company's product has become a very widely distributed necessity—so wide, indeed, that there is hardly a town in the country that does not use carbide of calcium. When I state to you gentlemen that millions of people besides those near the Falls are being benefited by the beneficent use of this water power; that 200,000 country homes, several thousand hotels, and over 300 villages are illuminated by calcium carbide made at Niagara Falls; and that it is really bringing the educational and economic influence of a brilliant and beautiful illuminant into the farm home and country village, the dark depths of the mine, the buoys and beacons of our coast line, and the lights of our engines and our automobiles, you will understand that perhaps the benefit is not confined to the limited circle of 2,000,000 people who draw light or power directly from Niagara Falls.

So, to sum up: This question of power has become extremely difficult. We have reached the limit of securing large units of power at Niagara Falls, and if a limitation is placed upon the waters of Niagara Falls which may be diverted we shall have to seek elsewhere, and the search for American power properly located to meet commercial conditions is a strenuous one. The most advantageous thing we can do is to establish a plant across the river, where we can keep our management, assembly, and distribution intact. I am authorized by my company to say that, provided the limitation fixed by the Burton law is not taken off, or provided that we can not get power from Canada, we will be forced to become a Canadian institution.

Mr. COOPER. Is your institution connected with the carbide industry of the "Soo"?

Mr. MORRISON. Yes, sir.

Mr. COOPER. Are you using all your resources?

Mr. MORRISON. Owing to the riparian-rights question, lake-level regulations, and the disputes over it—the suits and a multitude of legal tangles which have held development there in check—instead of getting the 20,000 horsepower contracted for we have been cut down so that 7,500 horsepower is our full average from that otherwise splendid source of power. The water has been and is still running

to waste instead of building towns and feeding thousands of human beings.

Mr. COOPER. How much power would you get if you had the full amount?

Mr. MORRISON. Our contract calls for 20,000 horsepower, but we could get 40,000 if it was developed, but we have never been able to get more than about 7,500. The ramifications of this electric-furnace industry are enormous. We all know some of the many varied uses of electricity, but there are greater developments coming. There is the use of electricity in the steel industry, new metals which add to the wearing power of rails and thus facilitate transportation, so that these industries are being born within industries, and new uses are in process of being born, and many of them have already developed into substantial and permanent entities. There is one wonderful thing, a child of the electric furnace, and that is that the nitrate industry—that is, getting nitrate from the air and putting it into the form of fertilizers, which in European countries is already very large; indeed, it has developed very rapidly in this country, so that in five years contracts abroad have aggregated 200,000 horsepower, and this vast amount of power is now being used for the benefit of agriculture, and thus the whole people. The Chilean niters are limited. This country in its water power has the solution of the nitrate problem, the problem of preserving the fertility of our soil. We are told that we are importing more than ever. As soon as the soil becomes exhausted the nitrates become necessary, and it is practically settled that the electrical industry must solve the nitrate question. This vast need must be met. Niagara Falls has a growth that is as much beyond European dreams as the Falls themselves surpass European imagination.

Mr. DIFENDERFER. From whom do you get this power?

Mr. MORRISON. The Niagara Falls Power Co.

Mr. DIFENDERFER. Are any of your stockholders interested in the Niagara Falls Power Co.?

Mr. MORRISON. I think not. I believe it is a correct statement to say that they are not connected with it in any way.

Mr. DIFENDERFER. Would you be prepared to state what you pay for your power?

Mr. MORRISON. I would hesitate to do so. I assume that could be easily ascertained. Some of the power companies could tell you.

Mr. COOPER. Mr. Morrison, this may be a little foreign to the matter before us, but what do you think of the water development in the great gorges of the West?

Mr. MORRISON. It is true there is great theoretical possibility there, but I desire to refer back to my general statement that the utilization of water power is more theoretical than practical. Freight and water transportation and nearness to markets is sometimes—almost always, in fact—the necessarily deciding factors in the ultimate question of the utilization of water power. For illustration: In Norway and Sweden—especially in Norway, where much nitrate carbide and steel is manufactured—the water power comes right down from the top of the mountains to the sea and the ships dock in deep water right there at the foot of the mountain, where the works are located. Water power is so cheap there that I believe I can state that rates are \$8 to \$10 per horsepower year as against the very much higher

rates American power can be developed for. It requires a good location and American genius to exist against such amazing competition.

Mr. COOPER. And you have been employing American labor all the time?

Mr. MORRISON. Yes, sir. I wish to emphasize one thing, and that is this, that if the embargo against the importation of Canadian power is not lifted we will be obliged to use Canadian power in Canada, and thus, in part at least, become a Canadian institution employing Canadian labor; so that we are decidedly in favor of removing that embargo as we are good Americans.

The CHAIRMAN. Is there any reason why Congress should not refer this to some commission to fix the rates?

Mr. MORRISON. Well, we have no objection whatever to any regulation of rates that is fair and equitable. We are buyers of power and users of power.

The CHAIRMAN. The committee will now hear Mr. Millard F. Bowen, of Buffalo, N. Y.

STATEMENT OF MILLARD F. BOWEN.

Mr. BOWEN. I am from Buffalo, N. Y. I represent the Erie & Ontario Sanitary Canal Co., a corporation of New York State. I would ask the consideration by the members of the committee of the course of the canal pictured on this map, which is taken from the Government sheets. I am the organizer and president of the company that is to accomplish this work.

Mr. COOPER. What company is it?

Mr. BOWEN. The Erie & Ontario Sanitary Canal Co., organized two years ago last fall.

Mr. GARNER. For what purpose?

Mr. BOWEN. The purposes mentioned in the charter are very broad.

Mr. COOPER. The general purpose. Can you state what the purpose of your company is without stating what is in the company charter?

Mr. BOWEN. Not only to provide a canal for sanitation and navigation, but also that the water shall be used for power, the right of way for warehouses along the line of the canal, or any business purpose under the laws of New York.

Mr. DIFENDERFER. What is your capital stock?

Mr. BOWEN. One hundred thousand dollars, unwatered.

Mr. COOPER. You propose getting some of that water power that is now used by some outside consumers?

Mr. BOWEN. All of the water used under the treaty is what would be necessary to make this a commercial success. The 4,400 feet allowed for power under the treaty can be added to by a provision of the treaty that I will read, so that there can be no misappreciation of the scope of this.

Mr. COOPER. Would that abridge the vested rights of those riparian owners if you get the surplus? The statement was made this morning that the companies already existing have the right of riparian owners.

Mr. BOWEN. As riparian owners they can take any amount opposite their own holdings. We will turn backward all the streams

that run into Niagara River, at or near Buffalo, and stop all of the floods; we shall make the waters of Niagara River as pure as nature intended them to be.

Mr. COOPER. How much is the capital to be?

Mr. BOWEN. Thirty million dollars, to be raised by sale of bonds.

Mr. GARNER. You mean to say, then, that your corporation gets permits from the Government and then sells its rights to somebody else?

Mr. BOWEN. Not at all. We will serve the public free with this canal for the purpose of sanitation, giving to all the people on the Niagara frontier free sewage disposal and free flood abatement, and also we will give Buffalo City a thousand feet of dockage, and a maximum kilowatt-hour rate which will be on the same basis as the Ontario rate—4½ cents per kilowatt-hour.

Mr. GARNER. A very laudable ambition indeed. But you don't propose to do all of this with a capital of \$100,000?

Mr. BOWEN. My dear sir, in Albany the other day a trolley company agreed to issue bonds for the full extent of its construction. The income proved by that trolley company was so sufficient to pay for the charges that the public service commission gave them the right to go ahead and issue the bonds for the full amount. Our finances are to be obtained for this enterprise from the sale of bonds. The stock necessary to be sold is only necessary for the promotion of the business.

Mr. COOPER. Is all this stock paid for?

Mr. BOWEN. It is not; it is only being sold as necessity arises.

Mr. COOPER. But you anticipate it will take all that amount?

Mr. BOWEN. Yes, sir; 170,000 horsepower of electricity can be developed from the 312 feet of fall that we obtain. The same amount that we ask for, if used by another company, would not come within a very small percentage of what we can generate. By reason of the extraordinary conditions of the frontier we can use this water three times over, and obtain 28 horsepower from every cubic foot of water.

Mr. GARNER. In your navigation feature wouldn't you be in competition with Montreal?

Mr. BOWEN. No; because the United States has passed on five different studies for a ship canal between Lakes Erie and Ontario and has turned them down on the ground that it would help Montreal more than New York. Therefore navigation in this canal would stop at the barge canal, and would take the barge traffic and would send those barges through to New York without going down the Niagara River, and vice versa, save passing up the river from Tonawanda, where the current is swift. No provision for an inner canal has been made by the State, and the river has to be used for that purpose.

Mr. LEGARE. How much water do you propose to use?

Mr. BOWEN. Six thousand. In order to make it a success it is necessary to take 1,600 feet per second in addition to the 4,400 feet, that being especially for sanitation and navigation, which is less than the percentage that has been allowed for dilution at Chicago. This study has been a study for years with me, and I have taken up all the data I have obtained since I organized the Manufacturers' Club of Buffalo. Many manufacturers came to Buffalo, and were turned away because there was not enough power, and because the

prices were excessive, and because factory sites with both rail and water connections are scarce and expensive.

Mr. DIFENDERFER. How long is this canal?

Mr. BOWEN. Forty-two miles.

Mr. DIFENDERFER. Then you would discharge into Lake Ontario?

Mr. BOWEN. After the sewage is taken away from the water.

Mr. DIFENDERFER. What is your proposition for the disposition of the sewage?

Mr. BOWEN. That is similar to the proposition of the drainage canal of Chicago. The drainage canal there has been in operation for 12 years.

Mr. DIFENDERFER. You would then drain the pure water into Lake Ontario?

Mr. BOWEN. Without any appreciable contamination. The effect of the experience of the Chicago Drainage Canal has been that in all of their years of operation the contamination is never appreciable—that all of the sewage matter disappears in the form of gas. The chemists who have examined the water there find that at Lockport, which is 32 miles from Lake Michigan, half of the sewage matter has disappeared, and no trace remains 48 miles from Lake Michigan.

In our canal, with a greater dilution of water, and with a less amount of sewage to drain into it, the flow of 42 miles will naturally, for many years to come, purify the water coming into it. Between Lockport and Lake Ontario there will be two large reservoirs for the dams below Lockport. If the State of New York finds that there is any contamination we will be compelled by the Health Department of the United States and the State board of health to treat the water in such a way as to satisfy them that there is no contamination.

Mr. LEGARE. Under what clause of the treaty?

Mr. BOWEN. In article 4 of the treaty, and in article 5, the last clause.

The CHAIRMAN. Mr. Bowen, in that connection, do you think it would be advisable to give the International Boundary Commission authority to prevent the pollution of the waters?

Mr. BOWEN. They say they will have to get that authority. They don't want to take up the authority even in such a matter as this until you give them the points upon which to pass. In other words, they will be in the attitude of agreeing to the proposition that will be sent up by you or any department of the Government.

Now, in article 8 you will find a very strong argument in favor of this plan. The third clause begins this way:

The following order of precedence shall be observed among the various uses enumerated hereinafter for these waters, and no use shall be permitted which tends materially to conflict with or restrain any other use which is given preference over it in this order of preference:

- (1) Use for domestic and sanitary purposes;
- (2) Uses for navigation, including the service of canals for the purposes of navigation;
- (3) Uses for power and for irrigation purposes.

George Clinton told me that he was told to make this treaty broad and comprehensive and to take away technicalities, so that there should be the broadest interpretation of the treaty for both sides of the boundary. So far they have not passed upon the rules, but the

International Joint Commission, established under the treaty, are still uncertain of their powers, but I think when they get into the matter their powers will develop.

Now, in order that I may have something to talk on, from a viewpoint of the bills that are before this committee, I have certain suggestions to make in regard to the wording of the preamble of both bills. First, in the bill (H. R. 7694) introduced by Mr. Simmons, why not strike out "fifth article of the" and leave it, "to give effect to the treaty," and not confine it to a simple interpretation of one article? That article is limited.

Now, in line 3 of the Simmons bill I would insert, after the word "from," the words "Lake Erie in Erie County, New York, or."

It was asked me by Chairman Tawney the other day whether this water taken from the head of the river could be construed as water taken from the river under this treaty. I interpreted it this way. Right at the head of the river there enter into the river an average of 220,000 cubic feet per second. If we take part of that away, it is taking water from Niagara River, although technically it might be at the head of the river. Now, from the sanitary point of view, right there, half of the 6,000 feet ought not to go into Niagara River or Lake Erie. A year ago the marine hospital sent Dr. McLaughlin to make an examination. Dr. McLaughlin has been called before your committee, and he may explain his report. It says that 160,000,000 gallons of water a day flow back into the river, polluted, from Buffalo alone.

The CHAIRMAN. I want to say that Dr. McLaughlin was here, but he could not wait, so he will come before the committee next Tuesday.

Mr. BOWEN. Let me point out some of the principal points, then, and he will go into the details. That 160,000,000 feet ought never to go back into the river polluted. That does not include stream waters that are polluted, so that polluted stream waters, together with other polluted waters that flow back to Niagara River can be said to be more than 3,000 cubic feet per second.

The CHAIRMAN. To give this authority to the International Boundary Commission we would have to put in a new bill.

Mr. BOWEN. I think that they would accept your putting into this bill "the use of 1,600 feet for sanitary purposes." That is the provision of article 4. The commission say that it only needs some action on the part of Congress.

The CHAIRMAN. Then you desire to have that in the pending bill?

Mr. BOWEN. Yes, sir; so that the sanitary feature of this bill can be passed upon by the international commission. Now, then, all that we are asking for, practically, is 3,000 cubic feet to dilute the sewage of the frontier, in addition to the 3,000 cubic feet that ought never to enter the lake and river in a polluted condition.

The CHAIRMAN. How far would that extend west? You say that it would be sufficient to prevent the pollution of the waters between Canada and the United States?

Mr. BOWEN. Yes, sir. The east end of Lake Erie and Niagara River. This report shows that the sewage of Cleveland, Erie, and even of Dunkirk, is taken care of in the waters of Lake Erie, so that the dangers are very remote at Buffalo, as Dr. McLaughlin says. Therefore, taking all the streams south of Lackawanna, and even

Hamburg, turning back all the streams at and near Buffalo into this canal is very comprehensive.

I have given instructions to the engineers that they shall construct the sanitary canal and make it comprehensive (as Jim Hill said), so comprehensive that engineers 50 years hence will not be able to greatly improve it.

Mr. LEGARE. Mr. Bowen, it seems to me you are wrong in your proposition to use more than is allowed in the treaty. For instance, at the foot of clause 5 you are unquestionably given the right to use this water for use of canals and domestic uses, or for the purposes of navigation. Now, under that you could use your 1,600 in addition to the 56,000.

Mr. BOWEN. What we ask for is 4,400 cubic feet per second for power and 1,600 cubic feet per second additional, under the last clause of Article V of the treaty for sanitation and navigation.

Mr. LEGARE. That is why I don't think your scheme is practical. Under that clause you have the right to use that in addition to 56,000, but you go further and say you want to use it for water-power purposes. You say that your scheme also includes power purposes. Now, article 8, that you mentioned here, seems to me to confine itself clearly to the 56,000 feet mentioned in the treaty. It says "these waters" only. It says "these waters," meaning these waters that are mentioned back here.

Mr. BOWEN. If you take that viewpoint, then we are entitled to the diversion we ask for, on the grounds that we use it for conservation of both health and power. The Government is pledged to stop pollution of international waters.

Mr. LEGARE. But you are asking for 6,000.

Mr. BOWEN. We are asking for the whole diversion for both conservation of health and power.

Mr. GARNER. The only difference between Mr. Legare and Mr. Bowen seems to be the difference between 6,000 feet and the 4,400 feet.

Mr. BOWEN. Yes, sir. The Hydraulic Co., with 6,500 cubic feet, and the Niagara Falls Power Co., with 8,600 cubic feet at the falls, are generating less power than we will generate with 6,000 feet.

Mr. GARNER. But could you utilize this—unless you had enough to make a business of it—

Mr. BOWEN. We need the full 6,000 cubic feet to make a commercial success. Yes, sir.

The CHAIRMAN. Mr. Bowen, how long do you think it will take you to conclude?

Mr. BOWEN. I have some information in regard to electrical contracts that you have sought for and also some suggestions as to what action has been taken before in similar applications.

The CHAIRMAN. We will go on until 5 o'clock.

Mr. BOWEN. In addition to the change in the title of the bill (Mr. Bowen refers to the Simmons bill), I have a correction where it says "above the Falls of Niagara within the State of New York for power purposes." Now, my suggestion is to change that to read: "For all purposes mentioned in the treaty." Furthermore, in line 8 of the Simmons bill, after the words "such diversions," I would suggest inserting these words: "And who shall conserve the usefulness of the water to its fullest extent." Now, furthermore, to cover

the point of the additional 1,600 feet, after the word "nine" in line 12, insert "to wit: Twenty thousand cubic feet per second for power and one thousand six hundred cubic feet per second for sanitation and navigation," covering the point that I have explained. Then, on page 2 of the Simmons bill, lines 3 and 4, strike out "commissioners on the part of the United States in the," leaving it to read: "That no such permit shall be granted allowing diversions of water exceeding in the aggregate fifteen thousand six hundred cubic feet per second without the consent of the State of New York and of the international joint commission provided for by said treaty;" and adding at that point, in line 5: "And all further diversions shall be governed by the rules of precedence and preference made in the treaty, and shall be limited to such amounts as shall not injure or interfere with the navigable capacity of Niagara River, or its integrity and proper volume as a boundary stream, or the scenic grandeur of Niagara Falls," leaving it in the discretion of the Secretary of War to decide whether any application shall come within the terms of the treaty. I think, with those corrections, there is no objection to the Simmons bill, and almost the same corrections could be inserted in the Smith bill.

The CHAIRMAN. Have you made the corrections in both bills?

Mr. BOWEN. Yes, sir. I started to refer to a part of the case as presented in a case before the Rivers and Harbors Committee on the Alexander bill on January 6, 1911. There we showed our case very completely in its essential points. To further illustrate the points, I have here a signed statement issued by Mr. Isham Randolph, of Chicago, stating the reasons why the grants should be made to the Erie & Ontario Sanitary Canal Co.:

Reasons why Congress and the International Joint Commission should grant to the Erie & Ontario Sanitary Canal Co. the right to divert from Lake Erie and use 6,000 cubic feet of water per second.

In presenting an argument to Congress and the International Joint Commission on behalf of the Erie & Ontario Sanitary Canal, the following points should be brought out:

First. Buffalo is discharging its sewage in a raw state into the Niagara River and the waters of said river are thereby polluted and rendered unfit for potable use.

This river is the natural source of supply for cities and villages on both sides of its channel, and the inhabitants of said cities and villages have learned by sickness and death, which medical science has truly traced to the water supply, that the water of Niagara River was unwholesome and laden with pathogenic germs.

To secure relief from this deplorable condition, resort has been made to artificial means of purifying the water taken from the river for potable use, with results not always satisfactory, but always expensive. This condition will continue to affect the inhabitants of the Niagara frontier just as long as the unpurified sewage of Buffalo flows into the river. An adequate purification system for the city of Buffalo means an initial expenditure of many millions of dollars and an annual outlay for operation and upkeep which would represent the interest on many millions more. The alternative to sewage purification would be to abandon the Niagara River as an open sewer and the discharge of the sewage into some channel or channels which would carry it off. This proposition is practicable, but its cost would be very great, probably as great as the creation, operation, and upkeep of an adequate purification plant.

Here arises the opportunity for private enterprise to do for the city what it hesitates to do for itself. Seeing this opportunity the projectors of the Erie & Ontario Sanitary Canal have formulated a project and offered it as a means of diverting the sewage of Buffalo from the Niagara River.

Briefly stated, this project contemplates reversing the flow of the Buffalo River and Smokes Creek through a tunnel several miles in length. The flow into which from the south is through an open channel, and away from which on the north is through an open channel, which finally discharges into the gorge of Eighteen Mile Creek. As an auxiliary to the construction described, it is proposed to use that part of the Erie Canal along the water front of Buffalo and extending north to the adopted project for the barge canal.

This costly project is not offered as a free gift; there are but few philanthropists in the world who can make such a kingly donation to humanity; the projectors believe that they can be compensated for their outlay by a gift which will cost their beneficiaries nothing. That gift is a right in perpetuity to abstract from Lake Erie to feed the channels which they will provide 6,000 cubic feet of water per second. This water in passing from Lake Erie to Lake Ontario will drop 326.42 feet; taking the mean level of Erie from 1860 to 1906 as 572.60 above sea level, and the mean level of Ontario for the same period as 246.18 (see General Chart of Northern and Northwestern Lakes, issued by the War Department, Jan. 6, 1908, Catalogue A). If we assume 14.42 feet as the loss of head due to slope and other causes, there remains a power-producing drop of 312 feet; at an efficiency of 80 per cent, 1 cubic foot dropping 11 feet will produce 1 horsepower; therefore, if we divide 312 by 11 and multiply by 6,000 cubic feet per second, the result will be 170,160 net electrical horsepower.

Now in the conservation of a natural resource that use is best which yields the greatest amount of service and consequent benefit to the human race. This condition will be reached in the highest possible degree of attainment in carrying out the project put forward by the originators and developers of the plans for the Erie & Ontario Sanitary Canal.

This statement is borne out first by the fact that by means of this project the sewage of Buffalo will be kept out of the Niagara River, leaving that stream an unpolluted and healthful source of supply for the towns and villages along its banks, both on the American and on the Canadian sides—a result which will be recognized as of primary and vital importance; secondly, in no other way can the volume of water which it is proposed to extract from Lake Erie be made as useful commercially or caused to produce so high a revenue. The amount of that revenue, it must be remembered, is not to be measured by the net electrical power indicated at the switchboard, for it is well known that electrical companies are enabled to sell from 25 to 50 per cent more power than they are theoretically producing, by reason of the fact that all patrons are not synchronous users of power.

Under Article V of the treaty between the United States and Great Britain relating to boundary waters between the United States and Canada, proclaimed May 13, 1910, the United States "may" authorize and permit the diversion within the State of New York of the waters of said river above the Falls of Niagara, for power purposes, not exceeding in the aggregate a daily diversion at the rate of 20,000 cubic feet of water per second. * * * "The prohibitions of this article shall not apply to the diversion of water for sanitary or domestic purposes, or for the service of canals for purposes of navigation."

Under the operations of the Burton bill, the taking of water from the Niagara River on the American side has been limited to 16,600 cubic feet per second, so that there is a margin of 4,400 cubic feet per second which may become available for water-power purposes. For this surplus water there are rival applicants; two of these are companies now in successful operation; one of these companies is the Niagara Falls Power Co., operating under a head of 138 feet, or only 41.66 per cent of the total difference in level between Lakes Erie and Ontario; the other is the Niagara Falls Hydraulic Power & Manufacturing Co., operating under a head of 210 feet, or 64.33 per cent of the total difference in level between Lakes Erie and Ontario.

The Erie & Ontario Sanitary Canal Co. proposes to operate under a head of 312 feet, or 95.58 per cent of the total difference in level between Lakes Erie and Ontario.

As a further comparison of the useful work at each of the power sites named, it may be stated that one cubic foot of water used by the respective companies on an efficiency basis of 80 per cent gives:

	Horsepower.
For the Niagara Falls Power Co.....	15.4
For the Niagara Falls Hydraulic Power & Manufacturing Co.....	23.86
For the Erie & Ontario Sanitary Canal Co.....	35.45

The Erie & Ontario Sanitary Canal development shows an efficiency 31½ per cent higher than the most efficient of the other two companies in this material phase of power produced, and as a conservator of life and health it stands 100 per cent above any competitor.

Objections to abstracting water from Lake Erie and from Niagara River.

The valid objection to abstracting water from Lake Erie lies in its diminishing slightly the depth of navigable water and thus harmfully affecting lake commerce. This objection can be met in one or other of several ways. A dam such as was recommended by the Board of Engineers on Deep Waterways between the Great Lakes and the Atlantic Seaboard (see p. 293, H. Doc. No. 149, 56th Cong., 2d sess.) would meet all objections raised by navigators on the score of reduced depth. This method is opposed by the American section of the International Waterways Commission, because of the increased danger of flood damage to Buffalo, "and for the postponement of the date of opening navigation in the spring" (see pp. 7 and 8, Sixth Progress Report of the International Waterways Commission, Nov. 1, 1910).

The construction of the Erie & Ontario Sanitary Canal would care for the flood conditions which inspired the apprehension of the commission, by affording outlet for the high waters; the commission however believes that regulating works can be constructed which will accomplish the purposes for which the dam (which they condemn) was designed. (See p. 8 of the report of Nov. 1, 1910, published as H. Doc. No. 779, 61st Cong.)

An alternative treatment which will secure the regulation of depth in Lake Erie is that suggested by Mr. J. Edward Thebaud and illustrated on page 619 of House Document No. 26688, Sixty-first Congress, second session.

As an engineering problem there is and can be no doubt of a successful solution which will bring about the regulation of Lake Erie for an expenditure which will be within reasonable limits.

We now pass on to the Niagara River. The abstraction of water from the Niagara River diminishes the volume of flow over the American and Canadian Falls and tends to lessen the grandeur and beauty of that wonderful work of the Great Creator. The consensus of opinion of the members evidenced by the report of the International Waterways Commission is that the flow over the Falls may be reduced approximately 66,000 cubic feet per second without materially detracting from the beauty and sublimity of the spectacle.

In our judgment it is within the scope of engineering accomplishment to construct such diffusion works above the Horseshoe Falls as will increase the beauty of the Falls and admit of a still greater diversion of the water for commercial uses. The contour of the Falls changes steadily. The escarpment is being worn away year by year to an extent which attracts the attention of any close observer who has the privilege of seeing the Falls constantly or even at long intervals.

The Horseshoe Falls has lost the form which gave it that familiar designation, and it is gradually assuming a V shape. At the apex of this V the water is of great depth and its destructive force is gigantic. The approach to the apex of the V is through a deep channel, and the way to arrest the rapid erosion which is going on is to choke this deep channel or thalweg, until the waters are forced to flow in greater depth over the entire rim of the Falls.

The writer has developed a project for doing what he here suggests. He explained it to President Taft in 1909 and received his approval as a layman, not as an engineer. In February of the present year Mr. Taft gave the writer a letter of introduction to Mr. Fielding, minister of finance, Dominion of Canada, bringing the writer's proposition to his attention. This letter was presented to Mr. Fielding in Ottawa on February 13 last. Mr. Fielding introduced the writer to Dr. Pugsley, minister of public works of the Dominion, and to him and to his engineering advisers, Mr. Louis Coste and Mr. A. St. Laurent, he explained the methods of creating diffusion works which would tend to arrest the rapid recession of the three Horseshoe Falls, and diffuse the volume of water evenly over the crest of the Falls and add greatly to the beauty of the cataract and permit a more liberal use of the water for commercial purposes. The creation of this diffusion work must be accomplished under a treaty between the United States and Canada, and it should be created as an international work.

ISHAM RANDOLPH.

CHICAGO, August 2, 1911.

A MEMBER. Is he in favor of this proposition?

Mr. BOWEN. Yes; he is our chief engineer. I would say right here that the bonded indebtedness of the city of Buffalo is so great that they are unable to do this as a public improvement.

The CHAIRMAN. Does that finish your statement?

Mr. BOWEN. The city of Buffalo asked the Secretary of War to do this thing two years ago, and in their resolutions asking the Secretary of War to investigate, if he decided we should have the grant, they asked that certain promises that we make should be incorporated in the grant as a condition precedent. The terms of our proposal were: This thousand feet of dockage, and the right not only to the city, but to all other municipalities and individuals on the Niagara frontier to drain into this canal as long as the grant will last; in addition to that, we will voluntarily put in this provision that although now the rate charged in Buffalo is not to exceed 9 cents per kilowatt-hour, it shall not exceed 4½ cents per kilowatt-hour; and furthermore, that the city in consideration, shall give its aid in the promotion of this enterprise, and use of such sewage, and the right and permission to use the streets for conduits under terms not more onerous than those given to the other companies in Buffalo. And this contract goes into the record.

The CHAIRMAN. Very well; have you finished?

Mr. BOWEN. I have some few remarks.

CONTRACT FORM WITH MUNICIPALITIES.

This agreement, made this — day of —, 191—, between the Erie & Ontario Sanitary Canal Co., a corporation of the State of New York, party of the first part, and the city of Buffalo, a municipal corporation of the State of New York, by —, its mayor, with the concurrence of the common council of said city, party of the second part, witnesseth:

Whereas said party of the first part has obtained or expects to obtain the consent of the Secretary of War to take water from Lake Erie for the use of the proposed canal, extending from Lake Erie to Lake Ontario; and is to construct and operate said canal for the purpose, among others, of furnishing power to industries operating along the line of said canal, and to such municipalities adjacent thereto as may desire to take advantage of the opportunities afforded by said canal; of receiving and disposing of in a sanitary manner the sewage of such municipalities and industries; of abating the periodical floods caused by the overflow of Buffalo River and Cazenovia Creek; and of affording means for reversing the flow of streams and sewers now emptying into Lake Erie and Niagara River, thereby purifying the water supply of the Niagara Frontier; and of serving as a branch of the barge canal now in process of construction by the State of New York, and affording dockage facilities for private and, if need be, for municipal uses.

Whereas said party of the first part desires the cooperation of said party of the second part in the promotion of said enterprises, and said city of Buffalo has manifested its willingness to cooperate by joining said party of the first part in its application for the consent of the Secretary of War, by the following resolution duly adopted by the common council of said city and approved by the mayor, viz:

"That the city of Buffalo, by its common council and mayor, hereby commends to the favorable consideration of the Secretary of War the memorial of the Erie & Ontario Sanitary Canal Co., and believing that the enterprise, if feasible at all, and if established and conducted with due regard to the public welfare, will inure to the immeasurable benefit of sanitary and industrial interests of national scope and influence, urges the Secretary of War to grant the prayer of the petition of said Erie & Ontario Sanitary Canal Co., provided that upon investigation he is convinced that the company's plans are practicable from a legal and engineering point of view, and provided further that such grant be made expressly subject to the following conditions precedent.

(1) That prior to the commencement of the work of excavating and constructing said canal, or of proceedings for the appropriation of lands therefor, said company shall enter into written contracts with the city of Buffalo, and such other municipal corporations along the line of the proposed canal as may desire such arrangements, securing to the said city of Buffalo and other municipal corporations, in the interest of the public health, the perpetual right to the free and unlimited use of said canal for the delivery of sewage and drainage thereto at the most sanitary and convenient points, without charge to any of said municipal corporations for such use and privilege; securing like privileges to individuals and private corporations occupying the territory adjacent to the canal, and affording such assurances as may be required that such sewage and drainage shall be disposed of in a sanitary manner;

(2) That prior to the commencement of work or of proceedings for the acquisition of lands for said canal, said Erie & Ontario Sanitary Canal Co. shall also stipulate by contract with the said municipal corporations, or such of them as desire it, to furnish to all persons and corporations power and light for municipal, industrial, business, or domestic purposes on terms which shall be just and equal to all consumers, admitting of no discriminations among consumers similarly situated, excepting in favor of municipal corporations as contrasted with private industrial or business corporations or individuals;

(3) Such other conditions calculated to promote the public interests as said Secretary of War may in his judgment deem advisable to prescribe."

Now, therefore, in consideration of the exchange of mutual benefits as aforesaid, and of the sum of one dollar paid by each of the parties hereto to the other, receipt whereof is hereby confessed and acknowledged, the parties hereto agree as follows:

Said party of the first part hereby grants to the party of the second part the perpetual right to construct sewers and drains from such points in the city of Buffalo as may be determined upon by said city, to and into the said canal of the party of the first part, and to empty therefrom into said canal its sewerage and drainage that is not prohibited by law; and that no charge whatever of any kind or nature shall be made by said party of the first part to said city of Buffalo of the second part for such use and privilege, other than the cooperation of said city mentioned in the foregoing resolutions; the party of the first part shall receive and dispose of said approved sewage and drainage in a thoroughly sanitary manner, subject to the approval of the State and local departments of health.

Upon receipt of written applications in form acceptable to said departments of health, which shall bind the applicants not to deliver or cause or permit to be delivered improper or objectionable sewage or drainage, and not otherwise, the party of the first part shall also grant freely and without charge, like privileges of sewage and drainage to individuals and private corporations occupying lands adjacent to said canal.

In measure proportionate to its other similar obligations to other municipalities and other patrons, said party of the first part shall also furnish to said city of Buffalo sufficient current for power and light for municipal purposes, upon the demand of said municipality, and at such prices (not to exceed 4½ cents per K.W.H.) and on such terms as shall be hereafter mutually agreed upon, in no case to be higher or more burdensome to said city of Buffalo than to other municipal corporations, or to any individuals or industrial corporations similarly situated along the line of said canal. Said party of the first part further agrees to furnish to individuals and business and industrial corporations within the city of Buffalo, on terms which shall be just and equal to all consumers similarly situated, sufficient current for power and light for industrial, business, or domestic purposes, at prices not to exceed 4½ cents per K.W.H.

Said party of the first part also agrees to provide for the use of said city of Buffalo, at some convenient point, a frontage along its canal of not less than 1,000 continuous feet for dockage purposes, provided, however, that said city of Buffalo shall exercise its option in this regard at some time within five years from the time of the opening and operation of said canal for navigation, and immediately after the exercise of such option shall commence construction of docks for the benefit of said municipal corporation and its inhabitants; the privilege hereby granted to be upon such reasonable terms as shall be agreed upon by the parties hereto.

Said party of the first part further agrees to save said city of Buffalo harmless from all costs, charges, damages, and rights of action accruing or arising

from the construction or operation of said canal, or from insanitary conditions, if any, that may result from the exercise by the party of the second part of any of the privileges hereinbefore granted.

Said party of the second part, in consideration of the foregoing, agrees to cooperate with the party of the first part in securing such privileges from the Government of the United States and from the State of New York as may be necessary to the successful construction and operation of said canal, provided, however, that such cooperation shall not entail upon said party of the second part any pecuniary loss or cost; and said city of Buffalo grants to the party of the first part such sewage and drainage and the right, permit, and license to use and occupy and cross over or under any and all streets, alleys, and waters of said city during the life of this contract, for any and all electric distributing lines, conduits, and cables that it may find necessary for distributing current throughout the present or future limits of said city upon as advantageous terms and with not more expensive construction than are or may hereafter be enjoyed by or permitted or granted to any other company under similar conditions.

This agreement shall be binding upon and shall inure to the advantage of the successors and assigns of the parties hereto.

In witness whereof, the parties hereto have caused these presents to be duly signed and sealed the day and year first above written.

The CHAIRMAN. If you have anything else relevant to the subject-matter to put in the record you may give it to the reporter.

Mr. BOWEN. Yes, sir; for instance, the rates in Niagara Falls.

Mr. COOPER. What about the rates right now? I thought you could give a summary.

Mr. BOWEN. In Niagara Falls, Ontario, it is 4½ cents per kilowatt horsepower—in Buffalo it is not to exceed 9 cents. The power rates in Niagara Falls, Ontario, are, for power delivered at commercial voltage, \$23 per horsepower, less \$3 if paid before the end of the month. In Buffalo the average for all purposes is within a few cents of \$35 per horsepower per year. There is no competition, because the companies there are both subsidiary companies of the Niagara Falls Power Co. A list of all these companies and their directors and their securities is in a pamphlet which, if it is of any interest to the committee, is at your service.

The CHAIRMAN. Leave that with the committee. Just give the name of it to the reporter to identify it.

Mr. BOWEN. "Statistics of local and miscellaneous securities, by J. C. Dunn & Co.," published in December, 1909.

I would like to state that a similar grant to that we ask you for was made in 1905 to the Mississippi River Power Co., at Keokuk, Iowa. I have a copy of the grant made to them, and it was on condition only that they should give the free use of enough electric power to operate the lock, and they should build the dam, lock, and dry dock at their own expense. They will be generating 200,000 horsepower next year, and they are an example of good faith.

The CHAIRMAN. You may get up all these things and give them to the reporter. We will now adjourn until to-morrow morning.

Whereupon at 5 o'clock p. m. the committee adjourned until Friday morning at 10 o'clock, this hearing being adjourned until 2 o'clock.

The following are the changes in the Smith bill suggested by Mr. Bowen:

In the preamble strike out "fifth article of the"; strike out "Canada" and insert "Great Britain"; after "nine" add "and for other purposes."

Page 1, line 3, after "diverted from" add "Lake Erie in Erie County, New York, or from."

Page 1, line 5, strike out "power purposes" and add "all purposes mentioned in said treaty."

Page 1, line 10, after "nine," insert "to wit: 20,000 cubic feet per second for power, and 1,600 cubic feet per second for sanitation and navigation."

Page 1, line 10, after above insertion, add "such individuals, companies, or corporations only as shall conserve the usefulness of the water to its fullest extent shall be given permits."

Page 2, line 10, strike out "made to" and add "given with the consent of."

Page 2, lines 11, 12, and 13, strike out "with full power and authority to said State to make such grant or grants of the use thereof as it may determine to be for the public interest," and add "and shall be governed by the rules of precedence and preference made in said treaty; and shall be limited to such amounts as shall not injure or interfere with the navigable capacity of Niagara River or its proper volume as a boundary stream, or the scenic grandeur of Niagara Falls."

PETITION TO CONGRESS AND TO THE INTERNATIONAL JOINT COMMISSION IN BEHALF OF
ERIE & ONTARIO SANITARY CANAL CO.

Whereas it is stipulated in Article V of the treaty between the United States and Great Britain, signed January 11, 1909, commonly known as the waterways treaty, that the United States may authorize and permit the diversion within the State of New York of the waters of Niagara River above the Falls for power purposes, not exceeding in the aggregate a daily diversion at the rate of 20,000 cubic feet per second, provided the level of Lake Erie and the flow of Niagara River shall not be appreciably lowered;

Whereas the prohibition of Article V does not apply to the diversion of water for sanitary and domestic purposes, and for the service of canals for the purpose of navigation, and it is stipulated in Article IV that the boundary waters shall not be polluted on either side to the injury of health or property on the other;

Whereas the cities bordering on the Niagara River and situate in the district contiguous thereto are subjected to epidemics of typhoid fever, caused by the polluted water taken from Niagara River, and considerations of public health demand the abatement of these dangers without delay;

Whereas the Erie & Ontario Sanitary Canal Co. has been organized under the laws of the State of New York to construct without State or Federal aid a canal between Lakes Erie and Ontario, beginning at a point at or near Smokes Creek in the city of Lackawanna, thence to a point at or near the mouth of Eighteen Mile Creek on Lake Ontario and laterals thereto;

Whereas the barge-canal law of New York State (sec. 3, ch. 147, Laws 1903) makes no provision for the use of the Erie Canal from the Guard Lock at Black Rock, Buffalo, to Tonawanda, and said Erie & Ontario Sanitary Canal Co. offers to deepen, widen, and maintain said portion of the Erie Canal from Black Rock to Tonawanda as a branch of the barge canal without cost to the State of New York, and under plans to be approved by the canal board and to be used in connection with the main channel of the Erie & Ontario Sanitary Canal to stop the pollution of Niagara River and the barge canal;

Whereas said canal may be used free of cost by the cities of Lackawanna, Buffalo, Tonawanda, North Tonawanda, Niagara Falls, Lockport, and all other municipalities and communities situate upon the Niagara frontier, to carry off all the sewage and storm waters now flowing from said cities into Lake Erie and the Niagara River;

Whereas said canal will be of sufficient depth and width to enable boats, barges, and other water craft of large tonnage to navigate the same from its beginning on Lake Erie to a point intersecting the Erie Canal at or near Pendleton, thereby increasing the efficiency and value to the public of said Erie Canal, and providing additional terminals for the barge canal;

Whereas the level of Lake Erie will not be lowered by the building of said canal so as to interfere with or affect its navigability, and the waters flowing within the Niagara River shall not be diverted so as to effect the beauty and grandeur of the volume thereof flowing over Niagara Falls;

Whereas the International Joint Commission must hear and pass upon the application of said company for the use of the necessary water for the canal:
Now, therefore,

We respectfully ask that a grant of water from Lake Erie be made to the Erie & Ontario Sanitary Canal Co., conditioned as follows:

1. That said company be authorized to take 6,000 cubic feet of water per second from Lake Erie for sanitation, navigation, and power—4,400 cubic feet thereof being the remaining part unused of the 20,000 cubic feet allowed for power on the American side under the treaty, and 1,600 cubic feet thereof being an allowance under said treaty especially for sanitation and navigation; which volume of water shall be taken through three channels designated as Buffalo River, Smokes Creek, and Black Rock Harbor.

2. That said company within two years after the date of the grant shall begin construction of said canal, without seeking from State or Nation other aid than that afforded by such cooperation as may properly be effected between Federal and State authorities, and shall with due diligence prosecute the work to completion.

3. That in consideration of said grant said company shall give to the cities of Lackawanna, Buffalo, Tonawanda, North Tonawanda, Niagara Falls, Lockport, and all other municipalities, public and private corporations and individuals situate or living in what is known as the Niagara frontier, the free use and right to use said canal during the full term of the grant, for sewage disposal purposes and for carrying off flood waters caused by storms.

4. That in consideration of the facilities which it will afford to the communities, municipalities, corporations, and individuals enumerated, said company shall have and enjoy for 99 years the right to and possession of all the water power which it is possible to develop from the volume of water which it will be permitted to withdraw from Lake Erie and cause to flow through its channel into Lake Ontario.

5. That said company shall have the right, when Buffalo River shall have been sufficiently deepened and enlarged to a junction with said canal, to make a proper connection of said river with said canal, and cause the waters of Lake Erie to flow through said Buffalo River into said canal.

6. That said company may make such changes and improvements in Smokes Creek, Ellicott Creek, and other streams in Erie and Niagara counties, as will permit water to enter said streams from Lake Erie and Niagara River, and flow through them into Lake Ontario; and may build and maintain at the mouths of Smokes Creek and Eighteen Mile Creek such protecting piers and docks as may be necessary, all of which construction affecting navigation shall be done under the direction of the War Department.

7. That said company shall forfeit its grant should it be judicially determined that it has entered any conspiracy or unlawful combination or monopoly in restraint of trade; and said permit shall not be transferable without the approval of the Secretary of War, and no such approval shall be given without the consent of the State of New York; and no electric current produced under said grant shall be transmitted to any point without the State of New York without the consent of the State.

8. That said company shall prove to the satisfaction of the Secretary of War that it will produce more electrical horsepower from every cubic foot of water per second to be used by it under such grant than can be produced by any other company.

The foregoing preamble and request was read, considered, and adopted at a regular meeting of the Central Council of Business Men, Taxpayers, and Residents' Association of Buffalo, representing upward of 3,000 members, this 11th of September, 1911.

WILLIS H. TENNANT, *Secretary*.

Adopted also by city of Lackawanna, city of Lockport, county supervisors of Erie County, N. Y.; village of Williamsville, village of Kenmore, village of Lasalle, village of Youngstown, city of Buffalo.

ERIE & ONTARIO SANITARY CANAL CO. WANTS A SIMILAR GRANT TO THIS.

[PUBLIC—No. 65.]

AN ACT Granting to the Keokuk and Hamilton Water Power Company rights to construct and maintain for the improvement of navigation and development of water power a dam across the Mississippi River.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the assent of Congress is hereby given to the Keokuk and Hamilton Water Power Company, a corpora-

tion created and organized under the laws of the State of Illinois, its successors, and assigns, to erect, construct, operate, and maintain a dam, with its crest at an elevation of from thirty to thirty-five feet above standard low water, across the Mississippi River at or near the foot of the Des Moines Rapids, from Keokuk, Iowa, to Hamilton, Illinois, and to construct, operate, and maintain power stations on or in connection with the said dam, with suitable accessories for the development of water power, and the generation, use, and transmission therefrom of electric energy and power to be derived from the Des Moines Rapids on the Mississippi River: *Provided*, That in lieu of the three locks and the dry dock, with their appurtenances, now owned and operated by the United States, at the Des Moines Rapids Canal, the said Keokuk and Hamilton Water Power Company shall build, coincidentally with the construction of the said dam and appurtenances, at locations approved by the Secretary of War, a lock and dry dock with their appurtenances; the said lock shall be of such a kind and size and shall have such appurtenances and equipment as shall conveniently and safely accommodate the present and prospective commerce of the Mississippi River; the said dry dock and its appurtenances shall be such as to give space, facilities, and conveniences for the repair of vessels at least equal to those afforded by the existing Government dry dock and shops at the Des Moines Rapids Canal: *And provided further*, That the said dam and appurtenant works shall be so designed, located, constructed, maintained, and operated, and the said lock and dry dock, with their appurtenances, shall be so designed, located, constructed, and equipped, as to permit at all times during the season of navigation, and at any stage of water, the safe and convenient navigation of steamboats and other vessels, or of rafts and barges, through the portion of the Mississippi River now occupied by the Des Moines Rapids, as well as through the entire length of the pool formed by the said dam: *And provided further*, That detailed plans for the construction and operation of the said dam, lock, dry dock, and appurtenant works, shall be submitted to and approved by the Secretary of War before the commencement of any portion of the said works; and the said works shall be constructed under the supervision of some engineer officer of the Army designated for that purpose, and that after the approval of the said plans no deviation therefrom shall be made without the prior approval of the Secretary of War of any such deviation: *And provided further*, That compensation shall be made by the said Keokuk and Hamilton Water Power Company to all persons, firms, or corporations whose lands or other property may be taken, overflowed, or otherwise damaged by the construction, maintenance, and operation of the said works in accordance with the laws of the State where such lands or other property may be situated; but the United States shall not be held to have incurred any liability for such damages by the passage of this act: *And provided further*, That when the said dam, lock, dry dock, and appurtenant works shall have been completed to the satisfaction of the Secretary of War, the United States shall have the ownership and control of the said lock, dry dock, and their appurtenances, and operate and maintain the same.

SEC. 2. That the withdrawal of water from the Mississippi River and the discharge of water into the said river, for the purpose of operating the said power stations and appurtenant works, shall be under the direction and control of the Secretary of War, and shall at no time be such as to impede or interfere with the safe and convenient navigation of the said river by means of steamboats or other vessels, or by rafts or barges: *Provided*, That the said company shall construct such suitable fishways as may be required from time to time by the Secretary of Commerce and Labor.

SEC. 3. That, except as provided for below in this section, the Keokuk and Hamilton Water Power Company shall bear the entire cost of locating, constructing, maintaining, and operating the structures and appurtenances provided for in this act: *Provided*, That the United States shall bear the cost of the supervision of the work by an engineer officer of the Army as provided for in section one of this act, and also the cost of maintaining and operating the lock and dry dock with their appurtenances, after their completion and due acceptance by the Secretary of War on behalf of the United States: *And provided further*, That the Keokuk and Hamilton Water Power Company shall provide, in connection with such lock, dry dock, and appurtenances, a suitable power plant for operating and lighting the same, according to plans and specifications submitted to and approved by the Secretary of War.

SEC. 4. That the act entitled "An act granting to the Keokuk and Hamilton Water Power Company right to construct and maintain wing dam, canal, and power station in the Mississippi River in Hancock County, Illinois," approved February eighth, nineteen hundred and one, is hereby repealed.

SEC. 5. That this act shall be null and void if actual construction of the works herein authorized be not commenced within five years and completed within ten years from the date hereof.

SEC. 6. That the right to alter, amend or repeal this act is hereby expressly reserved.

Approved, February 9, 1905.

PROPOSED BILL FOR CONGRESS.

A BILL To give effect to the treaty between the United States and Great Britain signed January 11, 1909.

Whereas it is stipulated in Article V of a treaty between the United States and Great Britain signed January 11, 1909, commonly known as the waterways treaty, that the United States may authorize and permit the diversion within the State of New York of the waters of the Niagara River above the Falls for power purposes, not exceeding in the aggregate a daily diversion at the rate of twenty thousand cubic feet per second, provided the level of Lake Erie and the flow of the Niagara River shall not be appreciably lowered; and

Whereas the prohibitions of Article V do not apply to the diversion of water for sanitary and domestic purposes and for the service of canals for the purpose of navigation; and

Whereas it is stipulated in Article IV of said treaty that the boundary waters shall not be polluted on either side to the injury of health or property on the other; and

Whereas the cities bordering upon the Niagara River and situate in the district contiguous thereto are subjected to epidemics of typhoid fever caused by the polluted water taken from Niagara River, and considerations of public health demand the abatement of these dangers without delay; and

Whereas the Erie & Ontario Sanitary Canal Co. has been organized under the laws of the State of New York to construct, without State or Federal aid, a canal between Lake Erie and Lake Ontario, beginning at a point at or near Smokes Creek, south of the city of Buffalo, on Lake Erie, and thence to the mouth of Eighteen Mile Creek on Lake Ontario, a distance of fifty miles, more or less; and

Whereas it is hereinafter provided that said canal shall be used free of cost by the cities of Lackawanna, Buffalo, Tonawanda, North Tonawanda, Niagara Falls, Lockport, and all other municipalities and communities situate upon the Niagara frontier, to carry off all the sewage and the sewage-polluted storm waters now flowing from said towns, cities, and municipalities into Lake Erie and the Niagara River, polluting the water thereof, to the great injury to the health of the persons living along the said Niagara frontier; and

Whereas the said canal will be of sufficient depth and width to enable boats, barges, and other water craft of large tonnage to navigate the same from its beginning on Lake Erie to a point intercepting the Erie Canal at or near the city of Lockport, in the State of New York, thereby increasing the efficiency and the value to the public of said Erie Canal; and

Whereas the level of Lake Erie will not be lowered by the building of said canal so as to interfere with or affect its navigability; and the waters flowing within the Niagara River, now under the control of the War Department, shall not be diverted so as to affect the beauty and grandeur of the volume thereof flowing over Niagara Falls: Therefore, to carry out conservation of health and power,

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Erie & Ontario Sanitary Canal Co., a corporation organized under the laws of the State of New York, be, and the same is hereby, authorized to take six thousand (6,000) cubic feet of water per second from Lake Erie and Niagara River for sanitary purposes and canal navigation and power four thousand four hundred cubic feet thereof being the remaining part of the twenty thousand cubic feet allowed for power on the American side under said treaty and one thousand six hundred cubic feet thereof being an allowance under said treaty especially for sanitation and navigation, which volume of water shall be taken through three channels designated as Buffalo River, Smokes Creek, and Black Rock Harbor.

SEC. 2. That the company within two years after the passage of this act shall begin the construction of the aforesaid canal without seeking from State or Nation other aid than that afforded by such cooperation as may properly be effected between Federal and State authorities; and the said company shall thereafter with due diligence prosecute the work to completion.

SEC. 3. That in consideration of the aforesaid grant said company shall give to the cities of Lackawanna, Buffalo, Tonawanda, North Tonawanda, Niagara Falls, Lockport, and all other municipalities, public and private corporations and individuals situate or living in what is known as the Niagara frontier, the free use and perpetual right to use the said canal for sewage-disposal purposes and for the carrying off of flood waters caused by storms.

SEC. 4. That in consideration of the facilities which it will afford to the communities, municipalities, corporations, and individuals enumerated in section three of this act the company shall have and forever enjoy the right to and possession of all the water power which it is possible to develop from the volume of water which this act permits it to withdraw from Lake Erie and cause to flow through its proposed channels into Lake Ontario.

SEC. 5. That the company shall have the right, when Buffalo River shall have been sufficiently deepened and enlarged to a junction with the proposed canal, to make a proper connection of said river with said canal, and thereafter cause the waters of Lake Erie to flow through said Buffalo River into the said canal.

And further, that the said company may make such changes and improvements in Smokes Creek, Ellicott Creek, and other streams in Erie and Niagara Counties as will permit water to enter the said streams from Lake Erie, and through them into the canal of the said company, and through the same into Lake Ontario.

And further, that the said company may build and maintain at the mouths of Smokes Creek and Eighteen Mile Creek such protecting piers and docks as may be necessary to carry out the purposes and operations of the company, all of which construction affecting navigation shall be done under the direction of the War Department.

SEC. 6. That the provisions of this law shall cease to be operative should it be judicially determined that said company has entered any conspiracy or unlawful combination or monopoly in restraint of trade.

SEC. 7. The Secretary of War shall extend the present permits for the diversion of the fifteen thousand six hundred cubic feet per second.

"THE ECONOMIC RIGHTEOUSNESS OF THIS IS MANIFEST."

Isham Randolph, M. A. S. C. E., Consulting Engineer.

Canadian laws prohibit pollution. The new international treaty declares that waters "shall not be polluted on either side to the injury of health or property on the other."

The canal company will spend \$30,000,000 of its own money in construction and buildings and will give the use of the canal perpetually to all the people of the Niagara frontier free, without taxation, for sewage disposal and flood abatement. Niagara River water can then be had pure without filtration and zymotic diseases will be decreased over 50 per cent, as has been proved in Chicago.

BRIEF OF MILLARD F. BOWEN, FOR ERIE & ONTARIO SANITARY CANAL CO.

All of international treaty should be covered in the bill and not Article V only.

Jurisdiction of disposal of water should be retained by Congress absolutely, for purposes of stopping pollution of international waters, as well as for navigation.

A precedent for such a special grant as is asked for by us is that given to the Keokuk & Hamilton Water Power Co., February 9, 1905.

A national board of health should be formed to take full jurisdiction of interstate and international streams and lakes.

Conservation of both public health and power should be insisted upon.

This particular company that, without appropriations, will stop pollution by turning streams and sewers back from lake and river, should be given a grant equal to the existing permits, or at least to the extent of 3,000 cubic feet.

The hearing on January 6, 1911, on H. R. 26688, before the Committee on Rivers and Harbors, present our case quite fully.

If the Niagara Falls Power Co.'s 8,600 cubic feet were producing power at an efficiency of 80 per cent, at the rate of 15.4 gross horsepower per cubic foot, their production would be 105,952 horsepower.

With 6,000 feet we will produce 170,160 horsepower.

Independent competition should be insisted upon.

As a conservator of life and health, this company stands 100 per cent above any competitor.

New York State is interested from the standpoint that barge canal terminal facilities will be greatly increased, without appropriations.

Buffalo is interested because floods will be abated and sewage disposed of, without appropriations.

Other municipalities on the Niagara frontier petition for these things.

The status quo as to the other two companies will be maintained, and they testify that they are prosperous.

Medical societies and health officers of the frontier are clamoring for relief.

Gen. Bixby testifies that the use of the balance of the 20,000 cubic feet on the American side will not unfavorably affect scenic beauty.

Industrial development to the fullest practicable extent is carried out by this plan.

STATEMENT OF OSCAR E. FLEMING.

MR. FLEMING. I am from Windsor, Ontario. I am a barrister at law, counsel for the Electrical Distributing Co. of Ontario. They contemplate getting from the Hydro-Electric Commission, of Ontario, electric power from Niagara Falls to furnish Detroit, and in that way we are interested. I might remark in the first place that a great deal of what I had to say has been covered by the previous speakers. But I think it might be interesting to outline to you the scheme of the Hydro-Electric Commission of Ontario. It is a Government scheme originating with the municipalities to get for the people of Ontario electric power at cost. That is, the government makes nothing on the scheme and the people get it at actual cost. Now, they have a contract with the Ontario company for 20,000 horsepower. At the present time they are using 20,000 horsepower, and they are serving as far north as Toronto. It is about 180 miles from Niagara Falls to London and about 100 miles to Toronto. That is what they thought at first, but as the art of the uses for generation and distribution have developed they have found that they can send the power profitably 250 or 300 miles.

Now, the present municipalities in the scheme number about 20, and the thing has worked out very successfully. At our municipal elections on the 3d of January, 34 municipalities voted to buy power from the Hydro-Electric Commission with which to supply their people. In our district, between London and Windsor, on the Detroit River, 17 have voted to come with us. The Hydro-Electric Commission has made its figures, and the present consumption in that district would amount to five or six thousand horsepower. The cost of distribution in that district would be considerable, probably two million or two and a half million, which, added to the cost of the power at Niagara Falls and London, would make the price too high to serve this territory. So some parties—the people of Windsor and the Detroiters—conceived the idea of taking from the commission part of the surplus to deliver in Detroit. It helps out the whole scheme to cheapen power. It enables the people in the district in which I live to get it at \$30. That plan has been submitted to these municipalities and they have no objection to Detroit getting this benefit. As I understand it, there is an investment for distribution of several million dollars, and the more power that goes along the line cheapens the power for the consumers.

The contract was signed between our company and the commissioners, and at that time our company put up a guaranteed fund of

\$250,000, and we have all the rights that we require, so far as Ontario and the Dominion of Canada are concerned. The only bar to our getting to Detroit is the Burton Act. We had in mind that the Burton Act was a temporary affair, to last until the treaty came into effect. Under that treaty we realized that we could do business—that is, if there was no limitation put upon the export of power by that commission. Now, the commissioners are ready to go on with their work, and we take from the Government at Windsor 25,000 horsepower for Detroit use.

Mr. COOPER. Do the Canadian municipalities get it at cost?

Mr. FLEMING. Yes, sir.

Mr. COOPER. Detroit would not get it at cost?

Mr. FLEMING. No; because they charge us 10 per cent of our cost, because we are not interested locally. The Federal Power Co., of Detroit, is an organization associated with the Electrical Distributing Co., and we take the power and distribute it. The people are the same in the two companies, and it has got to be organized that way so as to distribute it in the two countries. They take the power there and sell it to the people in Detroit.

The CHAIRMAN. How long is this contract for?

Mr. FLEMING. For the full term of the contract with the Ontario Power Co. It expires in 1939.

The CHAIRMAN. How long, in your opinion do you think it would take to exhaust the power you are entitled to under the provisions of the treaty?

Mr. FLEMING. That is a difficult question. In taking this up what I want to say to the committee is this: It might get to a point where we could get the power from Detroit.

The CHAIRMAN. That is why I asked you that question. There is great industrial development in lower Canada?

Mr. FLEMING. Yes, sir.

The CHAIRMAN. And it is only a question of a very short time when the people of Canada will use all the water they are entitled to?

Mr. FLEMING. I don't think there is any doubt about that.

The CHAIRMAN. Would it be a year or two, or three years?

Mr. FLEMING. I wouldn't like to venture an opinion, but it is going to be pretty near that.

The CHAIRMAN. You are using now—

Mr. GARNER. The Canadian side is using 11,000 and the American side is using 15,600 cubic feet.

Mr. DIFENDERFER. A little over 13,000, Mr. Garner.

The CHAIRMAN. You are using less than the American side?

Mr. FLEMING. Yes, sir; at the present moment. Now, as I said, we have all our plans made, but subject to the right to get into Detroit. I was about to say that in the ordinance the company was to sell the power at 20 per cent loss.

Mr. ———. What you want is the limitation taken off?

Mr. FLEMING. Yes, sir.

Mr. COOPER. Why should Canada, if it can not use that which is there, be anxious to have the restriction taken off?

Mr. FLEMING. It helps out the scheme of giving the people in Detroit the cheap power; but we have other water power—the Niagara River and the Ottawa River—in the north country, so

that we can well afford to give to Detroit that amount of power, and every man, woman, and child gets cheaper power.

Mr. DIFENDERFER. There is no contract between the city of Detroit and the Hydro-Electric Commission, is there?

Mr. FLEMING. Yes, sir; it is signed.

Mr. DIFENDERFER. You put up a bonus of \$250,000 in cash?

Mr. FLEMING. Yes, sir; and that is subject only to the permit to get it across the river, and if it is not given we get our money back.

Mr. WATROUS. As I understand it, 110,000 horsepower is being used out of 160,000 authorized to be used?

Mr. FLEMING. Under the Burton Act.

Mr. WATROUS. Then why can't you use twenty-five of the fifty thousand that is unused?

Mr. FLEMING. All of that is taken up by the Burton Act.

Mr. WATROUS. But not used?

Mr. GARNER. They have a permit from the War Department.

Mr. WATROUS. It is apparent that there is a permit for some 4,400 feet which is not being used.

Mr. COOPER. What is it held up for?

Mr. WATROUS. That is what I want to know. Just merely because the permit has been given, it is a very simple matter——

Mr. COOPER. Have you applied to the Secretary of War?

Mr. FLEMING. Yes, sir; and the permits have taken up all the water used.

The CHAIRMAN. They use it at any time?

Mr. FLEMING. Yes, sir.

Mr. GARNER. The explanation has been made this afternoon that they were contemplating using all that power soon.

Mr. COOPER. How long have they had those permits?

Mr. FLEMING. Since the Burton Act was passed.

Mr. GARNER. How long before we thought they were using it?

Mr. FLEMING. I don't know anything about their internal arrangements.

Mr. LEVY. When were you first refused by the Secretary of War?

Mr. FLEMING. I think it was over a year ago.

Mr. LEVY. What reason was given for the denial?

Mr. FLEMING. That the limit under the act was being taken up. They had no authority to grant any more permits under the Burton Act.

Mr. LEVY. In these permits is there no limitation as to the time? Do they give a permit to a company to sit down and hold that as long as it pleases?

Mr. FLEMING. I am not in a position to say.

Gen. GREENE. I have a copy of the permit here. The Secretary of War held two hearings, one in the summer of 1906.

He granted permits so that we would not all go to jail, because the acts done on the 30th of June were illegal, and then he investigated and found out what their plans were, and then held another hearing; then he issued permits for the quantities I stated this morning—50,000 to the Ontario company, 52,500 to the Niagara Falls company, 46,500 to the electrical company, and the balance was reserved for the use of a railway in Canada. Now, those permits are in force to-day.

A MEMBER. In August, 1907?

Mr. COOPER. Can these corporations wait in their discretion to use that?

Gen. GREENE. There is no time limit in the permit, but the Burton law says that it can be revoked.

Mr. GARNER. What company has failed to use the full power?

Gen. GREENE. The Electrical Development Co. (Ltd.) of Ontario.

Mr. LEGARE. They have not used any at all?

Gen. GREENE. Well, I understand they have sold a part of what they are authorized to export to Mr. Barton's company.

Mr. GARNER. In other words, they have a permit for a certain amount of power and they sell it to somebody else at a profit?

Gen. GREENE. Yes, sir.

Mr. BARTON. Sold 10,000 to the distributing company and it was not used because the company needed its entire generating capacity to supply the Canadian customers.

Mr. GARNER. Now, that is the most interesting statement I have heard so far. If I understand it, the Secretary of War allows a permit to continue in existence that is not being used because all the power it can generate is being used in Canada. At the same time he allows the permit to stand and refuses your company the right to bring power into Detroit for the benefit of the people of the United States?

Gen. GREENE. Here is the document, an order for permits. To the International Railway Co., 1,500; to the Ontario Power Co., 60,000; to the Canadian Niagara Co., 52,500; and to the Electrical Development Co., 46,000 horsepower. This is signed "William H. Taft, Secretary of War."

Mr. BARTON. That was the order for the permits?

Gen. GREENE. The permits were simultaneous.

Mr. GARNER. Is there anyone here representing the Electrical Development Co.?

Gen. GREENE. I answered that question this morning.

Mr. DIFENDERFER. Did you not state this morning that the MacKenzie-Mann interests were shipping no power into the United States?

Gen. GREENE. I said I did not know. Now, there was a public record, a contract with the Niagara Falls Co.—

Mr. BARTON. No; that was with the distributing company, and that has terminated now.

Mr. DIFENDERFER. So that they are entitled to ship 46,000 horsepower, and have not done so?

Gen. GREENE. I heard a rumor that they renewed it. But nobody has ever claimed that they ever shipped more than 10,000 horsepower.

Mr. GARNER. The fact remains still that we are entitled under the Burton Act to 46,000 horsepower, and that we are not now getting. This permit has been in existence since 1907; other parties seeking to use this power have applied to the Secretary of War, and he has refused them permits. Possibly the Secretary of War can give us some information.

Gen. GREENE. Incidentally, I may say that in the year 1909 I applied to the Secretary of War for additional power and was refused.

The CHAIRMAN. If the Province of Ontario grants the license for the water on the Canadian side, why should not the State of New York grant the permit on the American side?

Gen. GREENE. I see no reason why it should not.

The CHAIRMAN. It seems to me that it would be a matter of greater convenience than the present way, through the Secretary of War.

Gen. GREENE. Eminent lawyers have given me the statement that when the United States has exhausted its power it is then with the State of New York to say who gets the power, and fix the limitations.

Mr. BROWN. I agree with Gen. Greene on the law proposition.

Mr. SHARP. The concrete question before us is this: The Secretary of War has this authority conferred upon him by Congress and he has granted permits to parties, some of whom have availed themselves of it and some of them have not. Then the Secretary of War ought to grant that permit to someone who shall use it.

Mr. GARNER. And if you should turn that entirely over to the State of New York, Michigan might not be agreeable to that.

Mr. COOPER. This is the language of clause 7:

The Secretary of War reserves the right to modify the form of this permit, to change the method or plan of measurement herein prescribed, or to substitute other modes of judgement, etc.

Is that an absolutely unqualified right?

Gen. GREENE. Section 5 of the Burton law reads this way:

The provisions of this act shall remain in force for three years from and after date of its passage, at the expiration of which time all permits granted hereunder by the Secretary of War shall terminate, unless sooner revoked, and the Secretary of War is hereby authorized to revoke any or all permits granted by him by authority of this act, and nothing herein contained shall be held to confirm, establish, or confer any rights heretofore claimed or exercised in the diversion of water or transmission of power.

And I apologize for breaking in again.

Mr. FLEMING. The reason for the passing of the Burton Act has already been presented to this committee. It was a temporary measure. The duties it was to perform have been performed and it should expire. We on our side of the river had reason to believe that the treaty would be the supreme law of the land, and we can not appreciate why Congress should try to restrict us in the use of our 36,000 feet.

The CHAIRMAN. I am in favor of the people of New York buying power wherever they can buy it the cheapest.

Mr. FLEMING. How would you like us to say: "You can't have this. We will impose a duty on every horsepower that goes out of Ontario"? That would not be just. That is like the Burton Act.

Mr. BROWN. Mr. Fleming, is it not true, from an engineer's and a lawyer's standpoint, that the final permanent use of this power, authorized to be created upon the Canadian side, is to be enjoyed by that country who first preempted it, and if America does not get the use of it Canada will, and the final use will be where it was preempted?

Mr. FLEMING. Yes, sir.

Mr. BROWN. Then the question in this case on the Canadian side depends upon whether the embargo is raised?

The CHAIRMAN. Mr. Brown has asked you a question and he desires an answer.

Mr. SMITH of New York. I wanted to ask you what kind of a regulation there is in Canada outside of the regulation placed on the power sold by the Provincial Government itself?

Mr. FLEMING. There is none. Nothing but a commercial competition, and of course the competition is giving place to the hydro-electric power, which is so cheap.

Mr. COOPER. Do you think that if these restrictions were removed it would be advantageous for the United States?

Mr. FLEMING. Yes, sir.

Mr. COOPER. Well, why, as a Canadian, should you desire the United States to get that? You are having an eye on Windsor?

Mr. FLEMING. Yes, sir; I am interested in Windsor getting cheap power. It cheapens the rate of power all along the line from London to Windsor, and that is where we get a large benefit.

The CHAIRMAN. In other words, you are in favor of Detroit getting this power, incidentally because Detroit is going to help you get this power for Windsor?

Mr. FLEMING. Yes, sir.

Mr. RICHARD B. WATROUS. I am the secretary of the American Civic Association. I sympathize with the difficulties of Detroit that wants some cheap light. If the obstacle which stands in your way is removed, aren't you satisfied that you get that 25,000 horsepower?

Mr. FLEMING. Yes, sir; that is all I am asking for, but that is outside of the question of policy that I have discussed here, whether you should come in and restrict importation into the United States.

The CHAIRMAN. Now, is there any gentleman from Buffalo or Niagara Falls or the State of New York who desires to be heard briefly, and who wants to leave to-night? Mr. Bowen, how long do you think it will take to conclude your argument?

Mr. BOWEN. I wish to speak of one thing.

The CHAIRMAN. Major, do you desire to say anything in regard to the statement made by the gentleman from Canada?

Maj. W. B. LADUE. Just a few words.

STATEMENT OF MAJ. W. B. LADUE.

Maj. LADUE. I am in the Corps of Engineers, from the office of the Chief of Engineers. There is very little that I would care to say on this subject unless I am asked for more information.

The request for this permit has been made to the Secretary of War, but, so far as I know, it has not been coupled with any request that the permit of the Electrical Development Co. be revoked or modified in anyway. I say this because that has been touched upon in the argument. So far as I know the question of the revocation or modification of that permit, or taking away water and giving it to somebody else, has not been raised. I don't know what the Secretary would do on that subject.

Mr. LEGARE. You do know that his attention has not been called to the fact?

Maj. LADUE. So far as I know there has been no complaint made to him that they are not using their permit. Now, there is a provision in the Burton law which gives the Secretary of War the right to grant additional permits over and above 160,000 horsepower, and this Detroit company has been informed of this provision, and of the conditions under which additional permits can be granted. They have submitted certain statements which are now under consideration

by the Secretary of War; so this Detroit company is not altogether cut out of getting a permit because of the fact that there is an existing permit. I don't come here with any instructions touching this permit, because nobody in our office knew the matter was going to be brought up.

The CHAIRMAN. The Secretary, in granting these permits, did not charge anything for them? They were given gratis?

Maj. LADUE. Yes, sir; free.

The CHAIRMAN. If the Secretary of War should grant the permit for the additional 4,400 feet he would give it gratis?

Maj. LADUE. Yes, sir; I presume so.

The CHAIRMAN. But the State of New York would charge for it?

Maj. LADUE. That I don't know.

The CHAIRMAN. But the State of New York does charge for permits, doesn't it? They bring in a revenue to the State?

Maj. LADUE. I don't know, sir.

The CHAIRMAN. I would like to have you state the position of the War Department, so that we will know whether to give the power to the State or continue to lodge it in the hands of the Secretary of War.

Mr. GARNER. It ought to be stated that under the Burton law the Secretary of War would not have any right to charge for the permit. But if Congress should lodge this power in the Secretary of War, and Congress did not require any payment for it, he would not be allowed to charge for the permit. Whereas if he was allowed a fee, then the Secretary of War could charge that fee.

Now, I remember about the permit question. We had a special session last summer when the matter of the extension of the Burton Act was before this committee, but on account of the time limit and the unknown merits of the case, we decided to report a bill extending it until March 1. At that time this identical question of power being furnished to Detroit was before this committee and some statements made about it. That is my recollection.

The CHAIRMAN. That is right.

Mr. GARNER. I was somewhat surprised to learn that the Secretary of War's attention had not been called to the fact that this company was only using a small portion of its permit, and another company clamoring for an opportunity to enter the United States with this power. When you made the statement to-day that his attention had not been called to it and that the matter had not been touched upon it was a surprise to me.

Maj. LADUE. What I intended to say, Mr. Garner, was that, so far as our office knows, it has not been attacked. That is, no papers have come to us; but what has happened in the Secretary's office I don't know. There is one other matter I would like to comment on at the same time——

The CHAIRMAN. A little later, Major.

AFTER RECESS.

The committee reassembled at 2 o'clock p. m.

The CHAIRMAN. The committee will hear from Mr. Monahan.

STATEMENT OF GEORGE F. MONAHAN, OF DETROIT, MICH.

The CHAIRMAN. Will you be good enough to give the reporter your full name?

Mr. MONAHAN. George F. Monahan, Detroit, Mich., representing the Electrical Distributing Co., and the Federal Electric Light & Power Co.

I might say, by way of prelude, that the Federal Electric Light & Power Co. and the Electrical Distributing Co. are practically, for all practical purposes, identical corporations. In other words, the Electrical Distributing Co. is a company organized under the laws of the Dominion of Canada, with a permit from the Canadian Government to export power from the Canadian side to the Detroit side of the river. The Federal Electric Light & Power Co. is a company organized under the laws of the State of Michigan. It is, in a sense, a subsidiary company, organized for the purpose of fulfilling that part of the law which, as we interpreted it, required the formation of a company on this side of the river in order that there might be a permit granted by the Secretary of War to a company upon this side to receive as well as a company on the other side to transmit.

We are asking that the situation as presently extant be so arranged as to permit the transmission of power from Niagara Falls to the city of Detroit. Perhaps it might not be amiss for me to give to the committee a brief résumé of the facts leading up to our attempt to secure Canadian power for the city of Detroit. I assume that the committee is more or less familiar with the situation upon the Canadian side relative to the distribution of power. I need not enter into the activities upon the part of the Civic Federation, so-called, back in 1905 directed toward the preservation of Niagara Falls. Power companies had already at that date been established, and subsequent to their establishment the Canadian Government, possibly realizing the possibilities of the situation from the standpoint of their own citizenship, determined to embark in the enterprise of supplying to the Canadian people power at a cheap rate. As a result of their activities the so-called hydroelectric commission was formed, consisting of two members of the cabinet and one member of parliament, which commission has been continually in existence up to the present time. That commission contracted with the Ontario Power Co. for delivery to the commission—which represented the Dominion of Canada or rather the Province of Ontario and in a sense the Dominion, as I understand it—certain of the power which the Ontario Power Co. was then developing. Contracts were made for the delivery to the hydroelectric commission by this company of one-half of the amount of power that was then being generated.

The manner in which the hydroelectric commission operates, briefly, is this: It procures estimates as to the cost of building transmission lines from the Falls to a particular municipality which desires to have the power extended to that municipality from the Falls. The municipality itself votes upon the proposition as to whether or not it desires Niagara Falls power. Estimates are had as to what the cost will be. The actual cost to the Government of the transmission is based upon the municipality in the way of a charge, and the municipality itself has, as its particular business, to establish transmission lines through the municipality itself, and transforming sta-

tions. The power is given to the city at cost. As a result of these activities many of the cities in Canada were supplied and are at present being supplied with Niagara power. The reduction in cost, according to statistics, with which I have somewhat familiarized myself, is varied, according to the distance of the city itself from Niagara Falls. I am credibly informed that in one of the municipalities the reduction amounted to over 60 per cent. Detroit parties became interested about two years ago for the purpose of securing from the Dominion Government authority to export and for the purpose of procuring a contract with the hydroelectric commission for the delivery of power in the city of Detroit.

Mr. COOPER. By reduction, do you mean as compared with the power generated by the use of coal?

Mr. MONAHAN. I do; yes, sir. The contract was finally entered into, but after very energetic work displayed upon the part of the citizens of the city of Detroit who were especially interested. As an indication of the probability of this idea becoming reflected in reduced cost of electricity to the citizenship of Detroit, the company then operating in the city of Detroit used every means within its power and command, both in the municipality of Windsor, in the Ontario Government, and in the Dominion Government itself, to prevent any contract being made, or any export permits being granted for the purpose of bringing that power from the Dominion of Canada into the city of Detroit. However, the hydroelectric power commission finally entered into a contract with our people whereby we were to receive power from them as soon as we could complete the formalities on this side of the river. That contract is now signed and has been in existence for some period of time, awaiting its completion until the difficulties involved in the Burton bill had been obviated.

Mr. FOSTER. Are you getting electricity yet?

Mr. MONAHAN. No, sir.

One of the provisions of that contract, and upon which by contract we have already obligated ourselves, is that we shall deposit a half million dollars as a guarantee with the hydroelectric commission, and the amount of \$250,000, the first amount required under the contract, was deposited. It was deposited on faith of the treaty. The treaty relations which have been in existence between this Government and the Dominion of Canada, ratified, I believe, in 1910, and further brought into effective existence by the appointment of a commission upon both sides of the river within the past year. Relying upon the treaty and believing that the treaty was, as we still believe it to be, the supreme law of the land, this contract was entered into and moneys deposited.

Now, we ask at the present time that the limitations contained in the Burton Act with reference to restricting the importation of power into the United States from Canada be removed. We are relying in that request not only upon the fact of the treaty itself, which should be the supreme law of the land, but upon the further fact, as has, I think, been satisfactorily demonstrated to the committee, that the transmission of power from the Dominion of Canada into the United States is not going to interfere with navigation and is not going to interfere with the beauty of Niagara Falls. We are not concerned, I may say, at this time in the least with the question of whether or not on the American side the present restrictions of the Burton Act

should be lifted. In other words, it makes no difference to us whether the amount at present allowed—15,600 cubic feet per second—on the American side is restored to 20,000 cubic feet per second, as named in the treaty, or not, because our power is to come from the Canadian side.

Let me insist, however, that not only in its spirit is the treaty broken by the restricting of importation from Canada into the United States, but it appears to me to be a fact that we are doing something which is restrictive upon the best interests of the people of the United States who have an opportunity to get this power cheaper. We have tentatively placed ourselves upon record in the city of Detroit by papers filed with the common council of that city, guaranteeing at the very outset of the importation of this power the reduction of the present prevailing rate, which is fixed by ordinance, by 20 per cent.

Mr. DIFENDERFER. What is that agreement you have entered into for a rate?

Mr. MONAHAN. The records themselves of the city of Detroit fix the rate at which power may be sold in the municipality by the corporations which are doing business.

Mr. DIFENDERFER. The price per horsepower?

Mr. MONAHAN. The price per horsepower, according to my recollection, is \$88 per horsepower for power purposes and \$113 per horsepower for lighting. That is what commonly goes into the hands of the companies. Now, as to the absolute accuracy of the figures that I give on that subject, I am not prepared to speak, but it is approximately that. At all events our contract is that whatever rate is established in the city of Detroit at the present time, according to the records of the city of Detroit for the sale of power by the corporation now doing business in the city of Detroit, our figure is to be 20 per cent less than that. Is that definite?

Mr. DIFENDERFER. Yes.

Mr. COOPER. If that contract is accepted would the city ever have an opportunity to lower the rate?

Mr. MONAHAN. Yes, sir; not only that, but it has put those words into our tentative arrangement upon which we proposed to be bound, that the municipality at any time desiring to obtain the rights of distribution belonging to the resident company, which I represent here, may purchase whatever rights that company has at a figure to be fixed by arbitration, and establish municipal ownership. So that we are to an extent under the control of the city itself, and we are perfectly willing to be. The point I desire to insist upon is that by restricting the importation of this power into the United States an injustice is done to the citizens of the United States who have an opportunity to get this power, and the injustice is done, furthermore, without any right reason for it, because different experts have stated here that the importation of this power into the United States is not going to interfere either with navigation or with the natural beauty of Niagara Falls.

Further than that Congress, of course, as we all know, has absolutely no jurisdiction over what the Canadians will do with the 36,000 cubic feet per second. They can use all or none of it and we have no authority to say nay. The development of the matter during the past year in the Dominion Government itself has been such as to indicate very clearly, as has already been stated by Gen. Bixby before

this committee, that within a period of three or four years the Canadian Government, or rather on the Canadian side, every particle of power which is available under the treaty will be used by Canada. Now, it appears to me to be an elementary proposition that if some of the people of the United States have a chance to be benefited by this power at this time, they should be allowed to receive that benefit instead of the benefit going to the Canadians themselves. They have more than we have by way of right to take from the falls for the purpose of generating power, and this is the only way we have an opportunity to get some of what some might consider to be what the United States might be justified in receiving by reason of the fact of their connection with the falls themselves.

Mr. SHARP. Assuming that this restriction is removed, is it your understanding that you will then be able to get power from the Canadian side without increasing the limitation at present fixed upon their rights?

Mr. MONAHAN. The question is not very clear to me.

Mr. SHARP. Suppose that the amount of power now taken by the Canadian Power Co. remains where it is, but the restriction as to importing that power over here is removed, do I understand that the city of Detroit could still get power without increasing the amount that the Canadians now get? That is, is there any left for them to receive?

Mr. MONAHAN. Now?

Mr. SHARP. Yes, sir.

Mr. MONAHAN. Under present conditions?

Mr. SHARP. Yes, sir; with the restriction off of importation.

Mr. MONAHAN. Not as fixed in the Burton bill, according to my understanding of the situation.

Mr. SHARP. Then your contention would be that what you ask is not only that the restriction be removed but also the full limitation allowed under the treaty?

Mr. MONAHAN. Exactly, so far as importation is concerned. In other words, I go this far—

Mr. FOSTER. You do not understand—

Mr. MONAHAN. Perhaps I do not; but I answer according to my own light.

Mr. FOSTER. He wants to know if you ask for anything more than the removal of the embargo upon the importation of electricity?

Mr. MONAHAN. That is what we ask.

Mr. FOSTER. And he wants to know, if the embargo is removed and no further authority is given to Canada to take power from the falls, whether Canada would still have some excess electricity still to sell to you?

Mr. MONAHAN. Oh, unquestionably.

Mr. FOSTER. That is your question?

Mr. SHARP. Yes, sir.

Mr. MONAHAN. Unquestionably; there is no doubt about that whatever. In fact, Canada has not used anywhere near the full capacity of its limit under the treaty at the present time.

Mr. FOSTER. Mr. Chairman, for Mr. Sharp's benefit I would like to ask one question. The amount that Canada can take at the Falls is limited by the treaty agreement, just as the amount we can take?

Mr. MONAHAN. Exactly. There is no doubt about that whatever.

Now, then, the fact that we can supply our citizenship in the city of Detroit with power at a less figure than is now fixed, supplies to my mind an irrefutable argument, in view of the statements with regard to not destroying the Falls, and the further statement of our not being able to draw on the Canadians' 36,000 cubic feet per second, why the embargo should be removed and we be permitted to proceed along the lines of our contracts.

Some suggestion has been made with reference to the impracticability of bringing power that distance. I would not for a single moment offer my individual opinion in opposition to the opinions given by experts upon this subject, because I do not pretend to be an expert upon electricity or electrical power or its transmission, but the furthest that anyone has gone thus far in that connection is to say that it is a possibility but not a probability. On that score our own experts, whose decision upon the subject I voice, have declared that it is entirely possible and entirely feasible; and the best demonstration of the fact that it is not only possible but feasible is that the Canadian Government is ready now to build its transmission lines from London, Ontario, to Windsor, Canada, for the purpose of supplying Windsor with light; and if the Canadian government and the Canadian electrical experts conversant with this situation are willing to do that, then I think we can fairly well take a chance on it. Furthermore, we are willing to take our stand upon the decision of our experts coupled with the Canadian experts, and if it fails the only persons to lose are ourselves.

Mr. SHARP. To whom would you distribute this power; to what class of purchasers or customers?

Mr. MONAHAN. To all classes.

Mr. SHARP. Consisting largely of manufacturers?

Mr. MONAHAN. Oh, we should distribute to manufacturers and customers generally in the city of Detroit, for lighting purposes in residences and homes as well as to manufacturing institutions.

Mr. SHARP. Would it go to the city itself for lighting?

Mr. MONAHAN. The city has at the present time a municipal lighting plant with which it does its own lighting, but it is entirely within the possibility of things that the city might want to take our light at the reduced cost at which we could deliver it within the confines of the city of Detroit.

Mr. SHARP. There is a separate company organized, I suppose, under the Michigan laws, at least in Detroit, to handle this power that you get from the Canadian side in the event this goes through?

Mr. MONAHAN. Yes, sir; the Federal Electric Light & Power Co.

This, gentlemen, is very briefly an outline of the situation that I desire to suggest and present to your committee. I had in mind to discuss the matter rather more extensively than I have presented it, but I find upon listening to the subject made by Gen. Bixby and by Gen. Green and others that many of the features that I thought might be necessary to be covered for the purpose of clearness have already been fully developed and conclusively covered by them. I will therefore say in conclusion, insisting upon the fact that the treaty should be the law of the land and insisting further upon the fact that we are only asking to be allowed to take this power while we have a chance to get it, while in three or four or five years that chance may

have passed and our people have been deprived of the chance to use the power from the Canadian side. In view of those circumstances, it would be, in our opinion, incumbent upon the committee to advise that the restrictions upon the importation of power at this time be removed. If there are any further questions, I shall be glad to answer them.

Mr. SHARP. How long is this contract for?

Mr. MONAHAN. We have the contract during the term of the existence of the Ontario Power Co.—approximately 30 years.

Mr. COOPER. If this power goes to Detroit, of course it will go to Windsor, Canada, also?

Mr. MONAHAN. Yes.

Mr. COOPER. And when the power reaches that city the municipality of Windsor will distribute it?

Mr. MONAHAN. No, sir; it will distribute it to its own people, but it will not distribute it to us.

Mr. COOPER. That is what I mean. I understand that, but the municipality of Windsor and not a corporation formed for the purpose of distributing electricity will distribute this power to consumers in that city of Windsor?

Mr. MONAHAN. Yes, sir.

Mr. COOPER. And at cost?

Mr. MONAHAN. Yes, sir.

Mr. COOPER. With no profit?

Mr. MONAHAN. Yes, sir.

Mr. COOPER. And therefore at a less cost than it will be distributed to consumers in Detroit?

Mr. MONAHAN. Yes, sir.

Mr. COOPER. So no effort will be made in the city of Detroit to have the municipal council enter into a contract by which it could directly secure this power?

Mr. MONAHAN. I have no knowledge of any such effort made by the council of the city of Detroit. In fact, I can definitely state that no effort has been made by the municipal authorities themselves.

Mr. COOPER. If you do secure the contract with the Ontario people, you could not get it anyway?

Mr. MONAHAN. That is true, but at the same time we do not preclude the city from doing it if they see fit to do it. We saw the situation and took advantage of it. If the municipality had seen fit to do it, I do not suppose the citizens would have made any effort in that regard.

Mr. COOPER. It is only recently, Mr. Monahan, isn't it, that the generation, the insulation, and the carrying of the electric current for so long a distance as 220 miles has been considered feasible practically and profitably?

Mr. MONAHAN. I think that what you state is in a sense true.

Mr. COOPER. So the city could not be justly charged with laches because it did not get hold of this as quickly as you did? I do not mean, of course, that you were not perfectly justified in what you did.

Mr. MONAHAN. Certainly; I did not intend to charge neglect on the part of the authorities of the municipality of Detroit at all.

Mr. HARRISON. Have you given any study to the legal proposition as to whether or not we have legal jurisdiction over the transmission

of power from Canada into the United States, or whether or not that is a matter coming within the jurisdiction of the States?

Mr. MONAHAN. I have given the subject some study and I think that, in so far as the importation of current from the Dominion of Canada into the United States would constitute an interference with navigation, possibly under that construction the United States might have some jurisdiction.

Mr. HARRISON. Over the regulation of rates that would be charged by power companies?

Mr. MONAHAN. I doubt that very seriously. I would say in further answer to the question, a certain bill has been presented by Congressman Smith, covering this subject and maintaining that we should be obliged, on the American side, both at Buffalo and at the city of Detroit, to sell our power at the same price that it is sold for in Canada. I do not intend to waste much time before the committee on any such proposition, but merely advert to it. The Canadian Government builds its own transmission lines, it sells to its own people at cost. We can not, by any possibility, compete with any such proposition as that announced in that bill. We would have to sell for more than it sold for in Canada in any event, because we are farther distant than Canada, and in the second place, we have got to pay to the Dominion commission at the city of Detroit, for power, 10 per cent more than the city of Windsor pays for it. So it is absolutely impossible that that can be done; and furthermore, as a matter of argument, I would say that the fact that we can not possibly do it is no argument against our doing the best we can and getting it at a very substantial reduction anyhow, over the price we are forced at the present time to pay companies which generate electricity from some power other than water power.

Mr. DIFENDERFER. Mr. Monahan, you have presented this case, in my judgment, very clearly, and that has prompted me to ask this question: Whether, in your judgment, it would be feasible to have this matter in charge of the Interstate Commerce Commission, and charge the Interstate Commerce Commission with the distribution and regulation of this electricity.

Mr. MONAHAN. The question is a new one to me as to whether or not it would involve further enabling legislation in order to put the matter at all under the jurisdiction of the Interstate Commerce Commission is a question that I would not care, at the present time, to offer any opinion upon which would be of any substantial value to this committee; but I do say this: That so far as we are concerned, from a more practical standpoint, if this committee, after full deliberation of the subject, comes to the conclusion that it has such jurisdiction over the importation of power to the United States from Canada, we are perfectly willing to be placed under any reasonable regulation in that regard, which, in the judgment of this committee, is requisite and desirable in order to preserve the rights of the citizenship of our town.

Mr. DIFENDERFER. The reason I asked that question is this: I am a representative of Pennsylvania. A certain portion of our State is quite close to where this power is transmitted. New York has its commission; Pennsylvania has none; Ohio has no commission, nor has Michigan, as I understand it.

Mr. MONAHAN. Michigan has a commission.

Mr. SHARP. Would you claim, Mr. Monahan, later on, after you had this contract, that it was a question of vested rights, and that therefore Congress had no power to intervene, as the riparian holders now claim; that it is a vested right that we can not interfere with?

Mr. MONAHAN. I can not answer for the future in that regard.

Mr. SHARP. What would be the temptation?

Mr. MONAHAN. I think the temptation would be very great.

Mr. COOPER. Your present opinion is that you would yield to it?

Mr. MONAHAN. If you are asking me for my individual opinion, and what I would do, I think I would yield to that temptation; yes, sir; but I can not tell whether or not the company itself would feel more generous.

Mr. DIFENDERFER. It would be well enough to safeguard it from the beginning?

Mr. MONAHAN. On the part of the Government?

Mr. DIFENDERFER. Yes, sir.

Mr. MONAHAN. I think that would be judicious; yes, sir.

Mr. DIFENDERFER. You are very frank in your statements.

Mr. MONAHAN. If I should say anything else, I know the committee would know I was not representing the facts. If there is not anything further, gentlemen, I thank you for your time.

The CHAIRMAN. We will now hear from Mr. Scovell. You can proceed, Mr. Scovell.

STATEMENT OF J. BOARDMAN SCOVELL, OF BUFFALO, N. Y.

The CHAIRMAN. Whom do you represent, Mr. Scovell?

Mr. SCOVELL. Simply myself, as a citizen of the State of New York and a resident of the Niagara frontier.

Mr. CURLEY. Do you represent any of the companies that are operating in that vicinity?

Mr. SCOVELL. I do not. For nearly six years the Rooseveltian Republican policy of standpat has applied to the Niagara power situation in the Burton legislation, and therefore I come before you to-day with the immense relief that we have a committee with a chairman and majority in favor of a policy by reason of their political views, which coincides with that of the State of New York, or the officials of the State of New York who are pledged to see the utmost made available at the earliest possible time of our natural resources.

I feel that it is necessary for me to review somewhat the history of the position of the State of New York, in the past, now, and what it should be, with relation to the Niagara Falls park, both from the standpoint of scenic beauty and of Niagara Falls power development, and these things necessarily touch upon what has been done on the Canadian side. As long ago as 1884 I remember with great pleasure having attended the opening of the New York State Park, purchased at great expense by the State of New York, and placed under the control of a commission in order that the public—not merely the public of New York State, but of the entire United States and of the whole world—might have access to the beauties of Niagara free of cost. They removed all things which could be considered an eyesore in the district included by the park. Mills, which formerly stood on Bath Island, now called Green Island, after Commissioner Green, and anything within the territory which tended to affect or injure the scenic beauty were removed. This park extends up

Niagara River to what is called Port Bay, or the entrance to the canal of the Hydraulic Power Co. It extends out into the Niagara River to the international boundary line. It extends down, following the international boundary line, to the properties at the outlet of the Hydraulic Power Co.'s canal, New York State itself being the riparian owner, as I understand, between the intake and the outlet of the Hydraulic Power Co.'s canal.

If you will take the time to glance at a little circular which Gen. Green has furnished to each member of your committee, on the first page you will see a picture of Niagara Falls. If you have this before you it will enable you to understand the topography somewhat better than you otherwise would, the important factor being that the State park, which includes the islands which separate the American channel from the Horseshoe channel—the line of breakers comes below the head of Goat Island, and the State park extends above the line of breakers approximately half a mile. On the Canadian side you will see, near the crease in the center, one power plant at the right hand and another at the left. The one at the right is the Canadian and Niagara Falls Power Co.'s plant; the one at the left is the Electrical Development Co.'s plant, both up there below the line of breakers. It is apparent that it is a physical impossibility for the water taken by those two companies in anywise to affect the flow of water over the American Fall. The State of New York in creating the New York State Reservation of Niagara specifically provided in the act that no water should be diverted inside the park limits for power purposes, and so it came about that no water is now diverted by the companies taking power, nor have any rights been given under other charters to other companies to take water from Niagara River above the Falls, except at points above the New York State reservation.

The CHAIRMAN. How many acres are there in the Niagara Park?

Mr. SCOVELL. I could not estimate it. I should say that up the river it varies from a width of 300 feet to perhaps 600 feet, lower down, including the bed of the stream and the islands in the stream to the international boundary line.

The result has been, however, that on the American side the power companies taking water for power purposes take it from what is known, as you will find in the report here, as the Grass Island Pool. Consequently they divert from a point sufficiently far up the river and from the two channels in proportion to the relative flow from either. In the report of the engineers, which is before you, you are informed that there are practically 10,000 cubic feet per second going over the American Falls, and the balance of 205,000 cubic feet per second is going over the Horseshoe Falls.

Mr. SHARP. How much over the American Falls, did you say?

Mr. SCOVELL. Ten thousand cubic feet per second.

Three years after we opened our park on the American side the Ontario government, in celebration of Her Majesty's Jubilee, created on the Canadian side a park system, opened it to the public, and gave to a commission appointed by it supreme power over that park. I was employed as counsel in the case of the Queen v. Colt, in which were developed the rights of the park commission with respect to the whirlpool and the rights of the Dominion Government of Canada, as compared with those of the Ontario government, to control the

bank of Niagara and the waters, it being determined in those proceedings that they lay in the Province of Ontario. After the creation of these State parks—the State park on the American and the Provincial park on the Canadian side—there arose an agitation for the harnessing of Niagara, and the State of New York granted in the neighborhood of 12 different charters to take water from Niagara, all of which have been repealed with the exception of 3—1, the Hydraulic Power Co.'s rights are not by charter from the State, they being an organization under the stock corporation law, whose rights as riparian owners have been given by legislative act rather than by charter rights from the State. The first of these charters was granted to citizens of the city of Niagara Falls in the year 1886. And the company was known as the Niagara River Hydraulic Power, Tunnel, & Sewer Co., and by several acts mandatory of that we now have under that original act the Niagara Falls Power Co., the pioneer company in the development of electric power from Niagara waters, the Hydraulic Power Co. having been there for many years and having diverted water from Niagara River, not for the purpose of generating power or for the production of hydraulic power, their rights to the production of electric power having followed those of the Niagara Falls Power Co.

In the year 1891 certain residents of the village of Lewiston acquired a charter known as the Niagara County Irrigation & Water Supply Co. for the purpose of bringing water by a public waterway from the upper river to the lower river in order to supply pure water to villages and in order to generate power. In 1894, three years later, residents of the city of Lockport applied to the legislature and acquired a charter to take water from Niagara River, via Lockport to Lake Ontario, and that charter is still unrepealed, but they did not comply with the requirements with respect to canal construction and that charter is now the Niagara, Lockport & Ontario Power Co., which distributes for the Ontario Power Co. of Canada through western New York and which Gen. Green represents before you as its president.

It was the policy of the State at that time to grant the rights for the production of power because of the agitation for the harnessing of Niagara. This was accomplished, as I said, by the Niagara Falls Power Co., the initial installation being something like 15,000 horsepower, their charter rights being for 200,000 horsepower, 100,000 by a tunnel, and a like amount, if they subsequently so decided, by another tunnel.

Later still, in 1896, the hydraulic company obtained from the State of New York, by a vote, two-thirds being present and voting, confirmation of its right to take water. All of the other charters, granted to all of the other companies, had been granted, three-fifths being present. In 1895 I was retained by the Niagara Irrigation & Water Supply Co., and for 11 years was its attorney. I wish to correct Mr. Bowen's assertion of yesterday that I am its attorney; I was its attorney. Since the 1st of July, after the passage of the Burton bill—9th of June, 1906—I have not represented that company, but for 11½ years I did represent it, and thereby became familiar with the conditions at Niagara. My home being at Lewiston, on the Niagara, and my law practice in Buffalo, I have become familiar and kept so as to the conditions surrounding the development. Prior to

the enactment of the Burton bill, except for the restriction of 200,000 horsepower for the Niagara Falls Power Co. and except for the restriction of the size of the canal for the hydraulic company, which made it possible for them to take 95,000 cubic feet, there was no restriction, both the Lockport and the Lewiston companies having no restriction placed upon the amount they might take. When the agitation came for the preservation of the Falls all the outstanding charters except those mentioned were canceled by act of the legislature. Negotiations for the construction of the canal from the upper to the lower river had been completed to the extent of the underwriting of the securities in March, 1906, and about \$325,000 had been expended at that time. The passage of the Burton bill held up, and is still holding up, any possible development under that charter. You will find the hearing before the Rivers and Harbors Committee on the Burton bill in 1906, pages 15 to 45, the position of that committee at that time.

When the Burton bill was passed it recited its purposes as they have been brought before you at this session and the several conditions as to the navigation of the river; its effect on the Great Lakes; its effect upon the boundary and upon the scenic beauty have all been fully reported upon to you in the report of the War Department, as was required by the terms of the act itself. But there are certain things in connection with that act which I feel it is important to call to your attention, and one of the first is this: That in the grant of the right to take 15,600 cubic feet of water from Niagara River for power purposes to the companies then actually producing power, that was conditioned in two different ways. The first was, "But permits for diversion shall be issued only to corporations as aforesaid and only to amounts now actually in use or contracted to be used in factories the buildings for which are now in process of construction." That restriction made it impossible, until there should be a change in the Burton law, for the use in the United States of any more power generated on the American side than was then either actually produced or under contract. So that from that time until now, if that was truly carried out at that time, there would have been no opportunity for an industry to come to Niagara to purchase Niagara Falls power as a new proposition. It was only power that was previously contracted for which could be generated. They went on with their power development for the purpose of completing it and fulfilling the contracts previously made. We have, therefore, been limited to the importation of power from the Canadian side under the permits granted by the Secretary of War up to 160,000 horsepower for the development of new industries.

There is another factor, however, of the Burton bill of still greater importance, and that was this additional limitation that we heard nothing about in all the discussion here:

No revocable permits shall be issued by the said Secretary under the provisions hereafter set forth for the diversions of additional amounts of water from said river or its tributaries until the approximate amount for which permits may be issued as above, to wit, 16,200 cubic feet per second, shall for a period of not less than six months have been diverted from the waters of said river or its tributaries.

There was no intention at the time of the passage of the Burton bill to stop the development of power from Niagara water. An opportunity was given to the companies then actually producing power to

actually divert 16,600 cubic feet, to have that condition continue for a period of six months and then the Secretary, having determined by his observations whether or not the scenic beauty of Niagara had been damaged, could go further and grant additional permits either to those companies or to any other companies which had the right to take water from Niagara River for power purposes under authority given to them previously by the State of New York.

Mr. COOPER. That seems to me one of the most striking things that has been disclosed in this whole discussion and one of the most vitally important. Now, let us see if I interpret that correctly. If they did not use up to the maximum what they were allowed under that act, there was no way for the Secretary of War to issue a permit to anybody else, was there?

Mr. SCOVELL. There was not.

Mr. COOPER. And all they had to do to block him was to go not quite up to the maximum?

Mr. SCOVELL. They have not yet reached the maximum, and nearly six years have elapsed, although at that time the whole output up to that maximum must necessarily have been contracted, and they have not made other contracts.

Mr. COOPER. Exactly; that is why yesterday I thought that there was something the matter with the discussion about the failure to issue permits. If they did not use all they were entitled to use under that permit, the maximum amount for six months—

Mr. SCOVELL. That was on the Canadian side.

Mr. COOPER. Well, say on this side—and the Secretary of War, then, would have no opportunity to see what the effect on the Falls was, up to that maximum, would he?

Mr. SCOVELL. No.

Mr. COOPER. And therefore he could not issue any new permit?

Mr. SCOVELL. No; and he has issued no new permits.

Mr. COOPER. He could not. All they had to do to stop it was to not use the amount they were entitled to use.

Mr. WATROUS. Do you think there is a maximum clause that applies to the Canadian side?

Mr. SCOVELL. I do not know anything about that; I could not say.

Suffice it to say, under the provision of the Burton Act up to such time as a treaty should be reached there was no reason why up to that time additional grants of power might not have been made.

Mr. SHARP. How much was that of the maximum amounts?

Mr. SCOVELL. I could not say exactly; it is in the reports here. It is very near. Do you know, Mr. Brown?

Mr. BROWN. I can not say exactly. We have been using all of our water.

Mr. DIFENDERFER. My recollection is it is 13,800 cubic feet per second, and they are permitted to use a total of 15,600. My recollection is it is 13,800 at the present time.

Mr. BROWN. May I ask a question? If the maximum in any one second were 15,600, we will say, then as a matter of practical operation, if a company or combined companies were prohibited from using as a maximum in any one second a quantity beyond 15,600, as a matter of practical operation could you expect that for a period of six months you would find an operation that would average anything except something less than 15,600?

Mr. SCOVELL. I think the interpretation would be put on that, at the rate of—such as you desire to put into the new act.

Mr. BROWN. We can arrange the new act all right. But is it not a fact that the engineers have construed the present act to be the maximum in any one second?

Mr. SCOVELL. I think that is true, Mr. Brown, but at the same time there remains undeveloped water of the hydraulic company under the terms of their contract.

Mr. DIFENDERFER. This difference remains, between 13,800 and 15,600?

Mr. SCOVELL. That is the difference. There has never come a time when they have had 15,600 cubic feet of water diverted for the generation of electric power for any period of time sufficient to enable the provisions of that portion of the act to be applied and their company to apply for more power or any other company to apply to the Secretary of War for power.

The purpose of the act itself as recited in the fourth paragraph was that the President of the United States be requested to open negotiations with the Government of Great Britain for the purpose of effectually providing for such regulation of the water of Niagara River and its tributaries as will preserve the scenic beauty of that river, and it was because of that provision in section 4 that the company I then represented did not attempt to contest the constitutionality of the Burton Act. It would take longer to contest that successfully than it would to negotiate a treaty, and a treaty being the supreme law of the land we would be bound by it, and so our efforts were directed toward the wording of the treaty, and, as I understand, the two companies' efforts which were taking water from Niagara River, instead of being directed toward the testing of the Burton Act, were also directed toward the wording of the treaty, there never having been any test of the constitutionality of the Burton Act. It was continued from time to time until the present time, and it will continue until the 1st of March next. Personally I think the United States Supreme Court's decisions, by reason of the wording of the title, would probably result in the upholding of the act, although the intention was manifestly without the scope of the power of Congress.

Mr. SHARP. Did these two companies then frame up this treaty?

Mr. SCOVELL. I am reaching that. The next paragraph, however, of the Burton bill must be considered, and that is section 5: "The provisions of this act shall remain in force for three years from and after the date of its passage"—and that has been extended—"at the expiration of which time all permits granted hereunder by the Secretary of War shall terminate unless sooner revoked by the Secretary of War, and nothing herein contained shall be held to confirm, or establish, any rights heretofore exercised."

Because of the continuation of that act in that form, the President of the United States said to me that if Congress should adjourn—this was last spring—without having extended the Burton Act he would by Executive order permit the companies now taking water to continue to take water pending the action of Congress. So you can not allow the Burton bill to die and do nothing.

The wording of the fifth paragraph of the treaty itself says that the United States may authorize and permit the diversion. The

United States in authorizing and permitting does so under an act of Congress, and until there is congressional action there is no right to divert, and the present diversion exists only by reason of the existence of the Burton bill. With the death of that all permits are revoked that are outstanding. It is therefore necessary that some legislation be had between now and the 1st day of March, either authorizing the continuance of the present conditions or determining on a policy and following that, and I am here before you to-day, more particularly for the purpose of making some suggestions along the line of such legislation as your committee should see is passed in Congress under the fifth clause of the treaty.

The CHAIRMAN. In that connection, suppose the Burton law had not been extended by resolution of Congress what would be the consequence?

Mr. SCOVELL. The terms of the treaty specifically provided in section 5, "so long as this treaty shall remain in force, no diversion of the waters of the Niagara River above the Falls from the natural course of the stream shall be permitted except for the purposes and to the extent hereinafter provided." The treaty contained an absolute prohibition, and after the Burton bill expired, and after the permits thereby ipso facto were revoked, the treaty coming into effect, no one had a right to take water from the river pending congressional action, except as the President stated.

The CHAIRMAN. The Burton law expired last June, did it not?

Mr. SCOVELL. It did.

The CHAIRMAN. And Congress took no action regarding its extension until last August?

Mr. SCOVELL. Quite true.

The CHAIRMAN. Had all these permits expired during that time?

Mr. SCOVELL. Except as they were renewed by the continuation of the Burton bill.

Mr. GARNER. Let me get your conclusions, if I may. Your position is that if nothing is done until the 1st of March, the permits will all be revoked?

Mr. SCOVELL. It is so provided in the Burton Act itself.

Mr. GARNER. That applies to the Canadian as well as the American permits?

Mr. SCOVELL. Permits to import.

Mr. GARNER. Does that apply to American permits to take water from the Niagara River?

Mr. SCOVELL. It does.

Mr. GARNER. Now, you say that in case Congress did not take any action and the Burton law expired, the President would issue an edict?

Mr. SCOVELL. To hold things in statu quo until Congress acted.

Mr. GARNER. Has the President that power under our Constitution?

Mr. SCOVELL. I do not think so, but I think that is the wise way to do it.

Mr. GARNER. If that is true we might just as well adjourn and let the President settle the matters to suit his convenience.

The CHAIRMAN. Is it your contention, as a legal proposition, that the rights under these permits all expired last June when the Burton Act lapsed?

Mr. SCOVELL. At that time no one wished to contest the question; no one wished to stop the power. There was too much at stake.

Mr. GREEN. The Burton law expired on the 29th of June. We heard nothing from Washington and we went on with our business as usual. On the 21st or 22d of August the Burton bill was revived to the 1st of March. A few days after we received from the Secretary of War, without application, new permits reading exactly like the old ones.

Mr. COOPER. General, that would imply that the department extended the law just as Mr. Scovell said; new permits were issued?

Mr. GREEN. When the Burton law was revived.

Mr. SCOVELL. There was nothing done, because in that case there was no question raised.

Mr. COOPER. Exactly.

Mr. GREEN. I simply bring this matter before you as a committee to emphasize the importance of definite action on your part rather than allow things to go on and let the treaty be the supreme law of the land.

Maj. LADUE. Mr. Chairman, I can add a little to what Mr. Green has just said. When the Burton Act expired on June 29 we notified the officer in charge of the lake survey to stop his supervision of the operations of the power companies under their permits. Up until the 29th of June we had hoped that Congress would take some action, but no action having been taken we were not entirely clear in our own minds as to what we should do next. We proceeded to take the question under advisement to consider what should be our next step; the Burton Act being apparently dead, and the permits granted under its provisions being apparently dead. Before we had resolved upon the proper course to take, Mr. Chairman, Congress unexpectedly reenacted the Burton Act, whereupon we recommended to the Secretary of War that, the act being restored, the permits be immediately reissued under the old terms, to continue as long as the restored or revived Burton Act continued in force; that is, until the 1st of March.

Mr. COOPER. Major, did you consult, when the Burton Act expired, with any legal officer as to the effect that had on the permits? Or did you take it for granted that ipso facto they expired also?

Maj. LADUE. I presume the Secretary of War consulted with the Judge Advocate General; I think he did, sir. Of course, the chief of engineers did not take this action upon his own responsibility. He recommended it to the Secretary of War.

Mr. COOPER. And you consulted in your bureau with the Judge Advocate General?

Maj. LADUE. I think the Secretary of War consulted with him.

Mr. COOPER. The Secretary of War; and then you were informed—

Maj. LADUE. That our recommendation was approved.

Mr. COOPER (continuing). That when the Burton Act expired the permits expired also, and so you issued new permits when the Burton was revived?

Maj. LADUE. That was, essentially, the action taken.

Mr. COOPER. You looked upon the law as Mr. Scovell has here stated it?

Maj. LADUE. We understood it so.

Mr. SCOVELL. During the time that the treaty was under consideration, at the suggestion of the then mayor of Buffalo I came to Washington in opposition to the treaty, and I also was in communication with the Ontario Government in opposition to the treaty. The attitude of the city of Buffalo at that time being one in which they desired an opportunity to get power at better rates. They were called "the electric city," but we are not getting the advantage of being the electric city by reason of the fact that the power was sold at Niagara Falls by the Niagara Falls Power Co., to the Cataract & Conduit Co., which transmitted it from Niagara Falls to Buffalo, and sold it at Buffalo to the Buffalo General Electric Co., which distributed it from the conduits to the city, and there being necessarily three profits, of course the cost to the consumer in Buffalo was somewhat higher than Buffalo has expected.

The opposition to the treaty was twofold, but the principle was that the limitation of 20,000 cubic feet on the American side was too small. How that was reached has been explained to you here by reason of the reports of the engineers as to the amounts allowable to the full capacity of the plants of the two companies then actually producing power. At the hearing a year ago this month I made the assertion that the Niagara Falls Power Co. wanted 1,400 cubic feet more in order to complete its planned 100,000 horsepower development, and that the Schoelkopf (?) Co. wanted 3,000 additional feet in order to bring it from 6,500 to 9,500, the amount of water which a channel the size allowed by the act permitting it to take power would carry; and that those facts determined why the fact that 4,400 additional cubic feet of water was increased on the American side under the treaty. That was not admitted at that time, and I was therefore surprised and pleased that my guess, if such it was, of a year ago was repeated yesterday by my friend Mr. Brown. The additional 4,400 can be developed in that way between the two existing companies at Niagara Falls, and a question of riparian rights as between them has evidently been reached. The Niagara Falls Power Co. develops from 136 to 138 feet of head, obtaining approximately 10 horsepower per cubic foot. They have installed two wheel pits in each of which they have generators for the generation of 5,000 horsepower. They have installed 21 of such generators, making a total of 105,000 horsepower, one generator being held in reserve, as we are informed, for the purpose of switching in in case of trouble. The plant is considered and is called a 100,000 horsepower plant, but on the basis of 10,000 horsepower per cubic foot being produced and the limitation contained in the Burton Act to get the full capacity, 1,400 cubic feet more are necessary.

Mr. DIFENDERFER. If that 4,400 cubic feet a second were granted, would Buffalo receive any benefit in rates?

Mr. SCOVELL. From that particular company?

Mr. DIFENDERFER. Yes.

Mr. SCOVELL. I think not, unless some regulations were passed here or at Albany in regard to it.

Mr. CURLEY. You say you were engaged by the city of Buffalo?

Mr. SCOVELL. I say I was requested to come by the mayor.

Mr. CURLEY. And you also communicated with the authorities of Ontario?

Mr. SCOVELL. Yes.

Mr. CURLEY. Can you give the committee some comparison of prices to consumers at both places—Canada and the United States?

Mr. SCOVELL. Yes; I will reach that presently.

You will find from the report of the engineers that the Hydraulic Power Co., which was allotted 6,500 cubic feet of water under the Burton Act, if its canal is used to its full capacity can take 9,500, which is 3,000 more than the company now has authority to take, and that 3,000 at 1,400 makes the 4,400 which is in dispute at this time. That 4,400 was the increase given over the Burton bill by the terms of the treaty when the treaty was drafted between the two countries, apparently shutting off any other companies than the companies then producing power. That conclusion was fortified, in my opinion, when after the ratification of the treaty the so-called Alexander bill was introduced, definitely giving this 4,400 additional cubic feet of water to the companies then actually producing power.

Mr. SHARP. If these two companies did participate in putting the provision in the treaty, why shouldn't they shut off the power?

Mr. SCOVELL. Certainly; why shouldn't they?

We are coming to the position the State of New York should take at the present time. Of course, those things were comparatively easy of accomplishment at that time, I think. The Ontario Government wanted power to distribute in Ontario by its hydroelectric power commission. It was difficult to obtain it. The Niagara Falls Co. had a capital cost of \$160 per horsepower, and was in no position to compete with imported power, which could be sold, and is sold now, at \$9.40, as you were informed by Gen. Green. It is therefore important from the standpoint of an American company that a treaty should contain new provisions in regard to the importation of power, and I came here, as I said, at the request of the mayor of Buffalo to insist upon the insertion into the treaty of some provisions allowing power to be imported into the United States from Canada without question. The assurance was finally given by the Dominion Government and the Ontario Government that an export duty would be imposed upon power to be shipped out of Canada unless power was sold in Canada to the hydroelectric power commission at reasonable rates. Their opposition, therefore, was withdrawn to the treaty, and so we have a treaty to-day in which there are no regulations as to the importation of power, we being limited as it stands to-day to the pledge of the Government of Canada to the power companies of permission to export half of their power to the United States, which, however, Canada having a parliamentary form of government, is subject to change.

I was connected with a company which exported natural gas from Canada to supply the city of Buffalo. The Dominion Government required us to pipe from our field to Niagara Falls, Ontario, at an expense of an assessment of 150 per cent, which would be considered confiscatory here. And after that had continued for two years absolutely, it forbade us fulfilling our contracts in the city of Buffalo and required us to sell it all in Canada, which is one of the advantages which a government under parliamentary law, which is not obliged to recognize the obligation of contracts, has over a constitutional government.

Mr. LINTHICUM. Does Buffalo get gas from Canada now?

Mr. SCOVELL. No.

Mr. LINTHICUM. How long has that been?

Mr. SCOVELL. Two years.

The power company, as was told you day before yesterday by Mr. Wicks, has never needed funds. It has been in the position to install the best that could be had. It has the best engineers and the best all along the line. Its financial position—with John Jacob Astor and B. O. Mills on its board—gave it a financial position which is unquestioned. Its political position was assured with Mr. Mills, son-in-law of Mr. Reid, and with Senator Depew—

Mr. COOPER. Ambassador Reid?

Mr. SCOVELL. Yes; he was son-in-law of the then president. The political position of the company and the financial position of the company made it possible for it to have as strong a position as Niagara Falls itself has in hydraulic [laughter], so that the treaty as we have it limited the United States to 20,000 cubic feet per second. We have got the 20,000 cubic feet, and there are no strings on it. The question now comes, what shall we do with it? The Alexander bill was introduced to provide that it should be given to these two old companies to be divided as they saw fit—and their riparian interests having been adjusted, they saw fit. [Laughter.] The introduction of the Alexander bill resulted in Mr. Alexander's retirement and Mr. Smith's coming from Buffalo to Washington in his place, and you have before you a bill introduced in Congress by Mr. Smith at the present time to consider.

Mr. FOSTER. I always thought that Buffalo supposed Mr. Smith was a superior man to Mr. Alexander. [Laughter.]

The CHAIRMAN. You would not have us infer that the introduction of a bill by Mr. Smith will keep him home?

Mr. SCOVELL. I do not think it will keep him home. It will help some. The hearing on the so-called Alexander bill was fixed for the 6th of January of last year. I had previously seen our newly elected governor and on the same day as his message went to the legislature this resolution was introduced, and before they adjourned for the appointment of committees it was unanimously passed by both houses:

By SENATOR BURTON: That the clerk of the senate be directed to communicate with the proper committee of the house of representatives, through its chairman, and request that no final action be taken by its committee on the proposed bill now before it known as the Alexander electric power bill, until the New York State authorities have an opportunity to examine its provisions and to be heard thereon.

On January 4 that was adopted in the senate.

That was on the 4th day of January. On the 5th I obtained a certified copy of that resolution, and on the 6th I appeared before the committee on Rivers and Harbors, which was considering the Alexander bill, but deferred action as requested by the legislature at that hearing in relation to the constitution. Suffice it to say that the committee did not act at that time with respect to the Alexander bill, but deferred action as requested by the legislature of the State of New York.

Mr. FOSTER. Do you now favor the Smith bill?

Mr. SCOVELL. I won't say as to that as yet.

Mr. FOSTER. I thought not.

Mr. SCOVELL. On February 17 Gov. John A. Dix sent to the Legislature of the State of New York a communication with respect to both the Niagara Falls matter and the Long Soo. I had drafted a joint resolution to make that effective, and on February 20, three days later, the senate unanimously adopted the joint resolution in question. The following day, February 21, the same resolution was adopted by a vote of 82 to 47.

Mr. COOPER. That was in the other house—the assembly?

Mr. SCOVELL. In the assembly. It states so fully the position which the State of New York wished to take with respect to the Alexander bill, which disposed of the 4,400 cubic feet of water, that I believe your committee should understand the position of the legislature at that time with respect to that pending bill as an assistance to you with respect to the drafting of suitable legislation at this time.

By Senator BURTON: Whereas the Committee on Rivers and Harbors of the House of Representatives of the United States, in compliance with the request contained in a joint resolution adopted in Assembly of the State of New York, February 21, 1911, has deferred final action on the proposed bill before it known as the Alexander Electric Power bill, pending an examination into its provisions by the authorities of the State of New York, and

Whereas a communication has this day been received from His Excellency the Governor of the State of New York in the diversion of water from the Niagara River, which suggestions should be embodied in the form of amendments to the said bill,

Resolved, That the assembly agree that the legislators respectively request the representatives to use their best endeavors at the present session to effect the amendment of said bill.

First. Which are now actually producing power from the waters of said river or its tributaries be eliminated.

That was to prevent the restriction contained in the Alexander bill, whereby it gave it to those companies only. In other words, to use the words of my friend, Mr. Brown, the legislature desired that the act of Congress should be more elastic. [Laughter.]

Second. So that any permits hereafter granted for the diversion of water from the said river or its tributaries in addition to this—15,600 already recognized or issued—shall be granted and issued by the governor, having in mind especially such individuals, companies, and corporations as shall be able to satisfy him of ability to develop the maximum quantity of electrical power from such limited additional diversion of water.

If you will allow me to divert right there, we all know Mr. ———, of the State senate, and when he was advocating that provision he said:

There is only one argument against that provision, and that is ready money, cash in hand.

And when they voted on it they got unanimous action as a necessary result.

And that such permits shall be issued for such limited periods of time and upon such compensation to the State of New York as shall be reasonable and just.

That second paragraph announces the policy of the State of New York with respect to those additional 4,400 cubic feet.

Third. So that the limitation contained in this act, entitled "An act for the control and regulation of the waters of the Niagara River"—that is, the Burton bill—where by not to exceed ——— was permitted to be granted to any one individual or corporation, shall be restricted in said bill and continued in effect thereunder.

The limitation which allowed only — cubic feet of water to go to the Niagara Falls Power Co., developed under only 136 feet of head, was taken out of the Alexander bill, and the State of New York says: "We want that put back in, because otherwise a company might get some additional water which would not be used under the most effective head."

Fourth. So that no privilege arising under any permit heretofore or hereafter granted shall be without the approval of the Secretary of War, and no such approval shall be given until consent thereto by the State of New York shall have first been obtained.

The object of that provision was to prevent the possibility of a monopoly by dealing in permits.

Fifth. So that no electric power produced by hydraulic power used under any permit granted under this bill shall be transmitted to any point without the State of New York, except with the consent of said State.

Sixth. So that the granting of permits shall not be deemed to be required to cover the use of the surplus water of the Erie Canal for hydraulic power purposes, but the disposition of such waters shall be and remain under the sole jurisdiction of the State of New York.

That is due to the fact that at the city of Lockport the Secretary of War has issued a permit for the taking of 500 cubic feet of water, which is drawn from the Niagara River, to Lockport through the Erie Canal. It is Erie Canal water which by the terms of the treaty is not subject to its provisions. It is used at Lockport between the upper level of the locks and the lower level of the locks, and the State of New York believes that that 500 cubic feet of water should not be included in the limitation of 20,000 cubic feet per second, or in the minimum limitation of 4,400 cubic feet per second, but that there should be 4,900 cubic feet per second available.

On the Canadian side of the Niagara River and connecting Lake Erie with Lake Ontario is the so-called Welland Canal, which on two different occasions since its original construction has been changed in its line of route, passing through the old city of St. Catharines, another through Merritton, and another through Thorold. The waters are taken from Lake Erie, except such as are needed for navigation, and to that extent depletes the flow through Niagara River, but you will notice that in the wording of the treaty no reference is made to the diversion of water from Lake Erie. It is only diversion of water from Niagara River.

Along the line of the old canal 1,000 cubic feet of water is used for power purposes. At — Falls one of the finest little electric powers in Canada is installed. At the several levels of the old canals the water is used for the generation of power to light the city of St. Catharines, to run the carbide plant—I do not see the gentleman here who spoke yesterday for the Union Carbide Co.—but to furnish the electricity for Mr. Thomas L. Wilson's carbide plant in Canada. Mr. Wilson has a plant at Merritton, and he uses two levels of the Welland Canal power for the generation of electric power for his use. The State of New York feels that it is quite as much entitled to surplus canal waters as the Province of Ontario or the Dominion of Canada, and it has taken the position that in dealing with this matter Congress should recognize the right of the State to dominate its own canal and its own surplus waters. You therefore have in that joint resolution the substance of the position taken

by the legislature of the State of New York as recently as February last.

Mr. SHARP. Are you going, in the course of your remarks later on to suggest something—

Mr. SCOVELL. Yes; unless you ask me to stop before that.

Mr. SHARP. I was going to ask you to do it now, if you were not going to do it later.

Mr. COOPER. You were going to say something also about the relative costs.

Mr. SCOVELL. Congressman Alexander telegraphed me on Washington's Birthday, the day after the adoption of this joint resolution, that it was then too late in the session to accomplish anything. I came to Washington and had a conference with him. I brought a letter to Senator Burton from the governor, had a conference with Mr. Root, placed in his hands the bill which would embody the amendments suggested by the legislature of the State of New York, conferred with the Congressman from my own district here, and found that the opinion of all was that it was too late to do anything to extend the Burton bill. I felt that it was desirable that something be done if we could, and I saw the ranking Democratic member of the Rivers and Harbors Committee, Mr. Sparkman, of Florida, and he arranged for me to meet the President. Of course, Mr. Taft, as Secretary of War, originally granted the several permits under the Burton act which are in existence. He held hearings at Niagara Falls and is absolutely the most familiar with the situation of any one of the officials in the executive department of the Government. So that in going to him in regard to the matter I knew that what I had to say would be fully understood and appreciated at once, and as the result of my conference with him he made an appointment for Senator Root, Senator Burton, and Mr. Alexander to meet me at the President's office on the following Monday. That day the attitude of Senator Burton in favor of preserving the scenic beauty by holding us down to 15,800 cubic feet of water per second on the American side and not allowing power to be imported from Canada was still the block in the way, and we finally agreed to adjourn until 5 o'clock when we would submit in writing statements to each other as to what we wanted.

Mr. SHARP. What were Mr. Burton's reasons for opposing the importation of power?

Mr. SCOVELL. That it was a method which should be taken by the United States to prevent Canada from proceeding with further development of power on the Canadian side and thereby further depleting the flow of water over the Falls.

Mr. GARNER. On the theory that Canada could not use its own power?

Mr. SCOVELL. On the theory that Canada could not use its own power at home, and that if we kept it from coming over here we would continue to save the beauty of the falls for a short time anyway. The Senator from New York realized that we were so close to adjournment it was necessary to act promptly, and when I went to his office at half past 2 I found he had already drafted his ideas in the form of an amendment to the sundry civil bill and had introduced it, so it might lie on the table for 24 hours and pass to the conference with the other bills.

His amendment provided that no such permit shall be granted allowing diversions of water exceeding 15,600 cubic feet a second without being sent to the joint commission provided for by such treaty. I met him in the Vice President's room, and I said to him, "In the first place, the joint high commission is composed of Canadians as well as Americans, and the treaty has already determined that we are entitled to 20,000 cubic feet, so the Canadians should not have anything to say about the division of any part of that 20,000 cubic feet. It should be the American members of that joint high commission." He said, "I recognize that that is better." I said further, "It should read, 'without the consent of the State of New York and the American members of the joint high commission.'" He said, "That is the best politics and the best law that has been suggested since this matter started." He saw the members of the conference committee, and I personally went to Mr. Sulzer and Mr. Driscoll and arranged through them so that I met Mr. Tawney and Mr. Fitzgerald, of Brooklyn, with the result that it was finally agreed that the sundry civil bill as reported out should contain this specific provision. The question of amendment came up in the Senate, as you know, the Burton interests controlled and there was nothing done at the special session which followed before the expiration of the Burton law in June. Mr. Root introduced a bill in the Senate and Mr. Simmons in the House, Mr. Simmons's bill being now before you, containing the exact words of the suggestion made. It reads now:

No such permit shall be granted allowing diversions of water exceeding in the aggregate 15,600 cubic feet per second without the consent of the State of New York and of the commissioners on the part of the United States in the international joint commission provided for by such treaty.

That is the bill, one of the two bills, which you now have before you. The other bill is the Smith bill, which was also introduced at the special session, but neither was allowed to go through because you were considering special matters at that session.

The CHAIRMAN. Which of the two bills, the Smith bill or the Simmons bill, do you prefer?

Mr. SCOVELL. I am going to dissect both of them, and ask you to develop a bill of your own. [Laughter.]

The CHAIRMAN. I suppose that is what the committee will have to do.

Mr. SCOVELL. The attitude of the executive of the State of New York has been communicated by him to both of the Senators in this letter:

STATE OF NEW YORK,
EXECUTIVE CHAMBER,
ALBANY, N. Y.

To Hon. ELIHU ROOT and Hon. JAMES A. O'GORMAN.

GENTLEMEN: Permit me to call your attention to the importance of preserving the control of the State of New York over the waters of the Niagara River, authorized to be appropriated by the treaty between the United States and Great Britain on the boundary waters between the United States and Canada, proclaimed May 13, 1910.

The Government of the United States as such controls the navigable streams * * * by the Federal Constitution; namely, for navigation purposes. It is the contention of the State of New York that when the Federal Government has authorized the diversion of waters from a navigable stream for any purposes other than navigation its power ceases, except * * * recalling the authorization and determining that the authorized diversion is not exceeded. The determination of whether any part of the amount authorized by the Federal

Government shall be diverted and to whom rests with the State of New York. The State of New York is the owner of the bed of the stream and in the control of its riparian waters generally, but is the owner in fact of special rights of riparian control in the Niagara River procuring to it * * * ownership of the Niagara Park, including the islands. The State has heretofore made no grant for the use of these waters. It may also desire to make use of the waters permitted to be diverted, in some way not yet settled.

In view of these conditions I beg to request that you use your best endeavors to procure for the State, in any Federal legislation on this subject, a recognition of the principle that the State of New York shall have exclusive jurisdiction and control over the use and diversion, whether temporary or permanent, of all waters authorized to be diverted within the State by the treaty with Great Britain.

It is suggested for your convenience that this principle might be covered by a provision in the proposed law substantially to the following effect:

That such person or persons as shall be designated by the newly constituted authorities of the State of New York, and none others, shall receive the use and diversion of the waters authorized to be diverted by said treaty, subject as to the total amount diverted to the supervision and control of the Secretary of War.

The CHAIRMAN. Not exceeding the amount stipulated in the treaty?

Mr. SCOVELL. That is what he says, "subject as to the total amount diverted, to the supervision and control of the Secretary of War." [Reading:]

I shall, of course, be glad to exchange views with you on this matter at any time, and there are points cognate to this subject upon which I shall address you separately.

Very respectfully,

JOHN A. DIX.

The success which has been achieved in the Conservative Party in Ontario through its policy for the establishment of a hydraulic electric power commission and the distribution through the Province, mainly for the purpose of enabling small industries in small communities to be able to get cheap power and keep out of the large cities the laboring population and give them an opportunity to live in small communities, has worked so well that the State of New York, on the advice of the governor during the last session, devised a conservation commission for the State of New York with very broad and ample power. That commission, according to a letter that I have from its chairman to-day, will be represented before your body officially next week, on Tuesday, when you gather, as will also the State of New York, on this issue. The personnel is one, I am sure, to which you can intrust the matter of the division and diversion of this additional water. Whether the State will want to take it itself, develop it and transmit it, or whether it shall wish to give it to some corporation which can use it most effectively and then have that corporation transmit it and distribute it under regulations imposed by the conservation commission, is yet a matter to be determined in each individual case by that commission.

Mr. SHARP. Would he have it in his power to give that away to anybody else except these two companies?

Mr. SCOVELL. As against the riparian rights — that is a question which the State has under consideration. It follows that, as between the two, it is for its interest to give it to that corporation which can make it most efficient in any event. The Niagara Falls Power Co., by reason of having only 136 feet of head, can only

develop 110 horse power per cubic foot, whereas the hydraulic company, having 210 feet head, can develop approximately 218 horse power per cubic foot.

Mr. LINTHICUM. What horsepower would this additional water furnish?

Mr. SCOVELL. It is easily computed on the basis of 10 horsepower per cubic foot. For the Niagara Falls Co. on the basis of 44,000 horsepower—

Mr. DIFENDERFER. It would be 0.81 more, whatever that would be.

Mr. GALLAGHER. About 80,000.

Mr. SCOVELL. Just about 80,000, and if the State of New York saw fit to take the water from the upper river to below the next two pools, which are described so fully in the report of the War Department, it is possible to get a net head of 276 feet and get 24 horsepower per cubic foot, which would give in the neighborhood of 105,000 horsepower. Those are matters of policy and of legislation, of constitutional legislation on your part, or in the State of New York if you delegate these things to the State of New York.

Mr. DIFENDERFER. Mr. Scovell, the gentleman you referred to a while ago has just come in.

Mr. SCOVELL. I did not wish to ask a question. I merely said that the Thomas E. Wilson Co., which manufactures carbide in Canada, used two of the levels of the old canal for the generation of power. That was an assertion I made relative to the use of the Welland Canal for power.

Now, if we pass quickly to the bills themselves—

Mr. COOPER. You have not yet mentioned the difference in the cost—the price paid. You said you had some suggestions.

Mr. SCOVELL. I think the question of the price at which power should be sold should be left to the public service commission of the second district of the State of New York, or such public service commission as controls where the power is sold. The State of New York, acting through its public service commission, can determine those things for the benefit of the people of the State to better advantage, I think, than your committee or a special commission to be appointed.

Mr. LINTHICUM. What is Buffalo getting power at now?

Mr. SCOVELL. That varies according to whether you wish a very small amount or a large amount. I was president of a small industry in Buffalo which used 18 to 25 horsepower, and I used Niagara Falls power, and I found it was so expensive that I cut it out. It cost me \$3 a month per horsepower for half a day's service. I found I could install the natural gas engine and make it more economical, and so I did that. I sold my dynamo and put in a gas engine.

I might say in this connection as to the cost of power that Mr. ———, who built the Bethlehem Iron Works ——— than whom there is probably no greater mechanical authority ——— told me that the cost of producing power by steam was the smallest for continuous 24 hours' service at Birmingham in England, where it could be had at a cost of \$36.36 per horsepower per annum; and that the next cheapest cost was in one of the coal areas in the United States—in Pennsylvania—where it could be purchased for \$36.52.

Mr. COOPER. A year?

Mr. SCOVELL. Per annum for a 24-hour power. I may say in this connection as bearing upon the general scope of the situation, that the late Sir John ———, who was a member of the firm of Jay Cooke & Co., of Philadelphia, before his return to London, asked me to go before a committee of bankers who were considering some of the debentures for the second wheel pit of the Niagara Falls Power Co. and state to them whether I thought there would be a market for the power, and I quoted those figures which had been furnished me by Mr. ———. But I stated that the maximum price at that time being \$20 for continuous 24-hour service, no corporation desiring continuous 24-hour service and in which power was a large factor in the cost of production could afford to locate anywhere but at Niagara.

They then asked me what classes of corporations would want that. I told them I was neither a prophet nor the son of a prophet. When work began on the Niagara Falls tunnel, there was a boom. Throughout New England there was a population of five for every horsepower available, and it was expected that the development of Niagara would bring a population there of a million. The first company to want Niagara Falls power was the Pittsburg Reduction Co., which produced aluminum by electro-chemical processes, taking a large quantity of power, and it so happened that they expected to use such power as is purchased for lighting and running trolley cars. At the time of which I am speaking there were no corporations using Niagara Falls power. There were no processes used for the application of Niagara Falls power which had been patented when work began upon the tunnel and there were no products made from those processes known to science when work began upon the tunnel. Consequently I could not predict what classes would want the excess power which would be produced. You have heard how that demand for power by the electro-chemical companies is constantly increasing. The principal reason why the amount of water given to the Hydraulic Power Co. was increased at the time of the passage of the Burton bill was that, having got a permit for 6,500 horsepower, the aluminum company of America wanted such a large quantity of power they could enter into a contract forthwith and so enable them to ask for the allotment to them of more water. The Union Carbide Co. told us, "They are increased 10,000 a year, and yet we are not allowed to use the waters we are given by the treaty, nor are we allowed to import more power."

Mr. LINTHICUM. And the State receives no revenue from this whatever?

Mr. SCOVELL. No, sir. I happened to rent a small amount of power for a corporation of which I am treasurer from Gen. Greene's company. Within six months I have been asked whether or not it would be possible for three different corporations—one that wanted 5,000, another 6,000, and another 10,000 horsepower—to locate at Niagara. I said, "You can not get it on the American side. The only company that imports for you is Gen. Greene's company, and he is up to 57,000, which is within 3,000 of the limit, and until Congress makes provision so we can get more, or else permits us to use our own more fully there is no use coming to Niagara, except you located on the Canadian side."

Mr. SHARP. Do you think there is the probability of Americans going to Niagara and locating on the Canadian side?

Mr. SCOVELL. I do; and very quickly.

Mr. SHARP. I should imagine that should be controlled.

Mr. DIFENDERFER. For the reason that they can get power cheaper.

Mr. SCOVELL. So they can get it at all. There is no question at all of competition between the Niagara Falls Power Co. as against the Hydraulic Power Co. There is no difference in the rate at which they can afford to sell, because the demand for the power is so far in excess of what can be supplied.

Mr. DIFENDERFER. Have you heard any individual complaints as to the high price of power that is furnished?

Mr. SCOVELL. I have in Buffalo but not at the Falls. I attribute it in Buffalo to the necessity of taking off three profits, as I said awhile ago.

Mr. GARNER. With reference to your advice to the corporation in New York that it was impossible for them to get additional power on account of the 130,000 horsepower now in use, with the exception of 3,000, isn't there a company up there that has a permit for some 46,000 horsepower, which is not being used?

Mr. SCOVELL. They do not import any into the United States.

Mr. GARNER. If that permit was canceled, wouldn't you be able to get more power?

Mr. SCOVELL. That would depend upon Gen. Green's company's relation to the Ontario and Dominion Government as to the proportion of the power generated by his company which they would allow to be exported.

Mr. GARNER. But if this permit was canceled, some other company could take it up and bring it in?

Mr. SCOVELL. Quite true.

Mr. LINTHICUM. Would you mind filing here a list of prices in Buffalo where these companies are operating?

Mr. SCOVELL. I believe the mayor of Buffalo has recently asked for an appropriation of \$35,000 in order to get such data. While I might pose as a philanthropist, I could hardly do that.

Mr. BARTON. The schedules are printed and open to the public. Anyone can get them.

Mr. LINTHICUM. Will you file such schedules?

Mr. BARTON. Yes, sir.

Mr. CURLEY. Is there any way we could get the same prices in Canada?

Mr. SCOVELL. The schedule would refer to prices for power furnished by the hydroelectric power commission.

Mr. CURLEY. Is there any limit on the prices charged by the power companies?

Mr. SCOVELL. The only way in which that can be done, so far as I know, is by State regulation of prices at the time of granting permits to them to take water. Otherwise the law of supply and demand will control, and the demand is so great in the United States that even if the doors were open for the importation from Canada of all that Canada can produce, there would still be no competition because of the demand. It would be a matter of competition as between power produced by coal as against power produced by water.

Mr. COOPER. Mr. Scovell, in view of what you just said of the mayor having asked for an appropriation of \$35,000 to get at the prices, and the statement of the gentleman to the right that that will be given by him gratuitously without it costing anybody a cent, I move to inquire if there was some reason for the mayor asking for \$35,000 to get what would be given to him for nothing?

Mr. SCOVELL. The question of what people pay for power and what the schedules are are very different things, you know. The effort on the part of the mayor is to determine whether or not these prices could be lessened to the mutual advantage of the people and the company.

Mr. COOPER. Have there been complaints of a serious character there as to discrimination as between consumers?

Mr. SCOVELL. I could not say as to that, but I think the complaint has been largely an undertone on the part of the users. We are glad to get the power because it is cheaper, but we are not the electric city that we thought we were going to be. That is all, so far as that is concerned. The company which I formerly represented, the former mayor of Buffalo asked its controlling interests as to whether or not if they got the right to develop power at the Devils Hole, where they could produce 24 horsepower per cubic foot of water, they could bring power to Buffalo; and if so, at what price. The party in question stated to the mayor of Buffalo that they would be glad to contract to deliver at the city limits of Buffalo 25,000 horsepower at \$15 per horsepower.

Mr. FOSTER. If I understand your position with reference to importing electricity, you do not think we should place any restrictions upon it?

Mr. SCOVELL. The provisions in the Smith bill with reference to placing restrictions on importations, I will omit entirely. If we have no use for it, they will probably cut it off and take it back. But we want as much as we can get and as soon as we can get it, and leave to the officials of the State of New York appointed for that purpose the question of its distribution to us and the prices fixed. And I can say that the commission of the State of New York have been in close touch with the hydraulic electric-power commission of Canada, know what they are doing there, know what prices can be obtained, and have the benefit of all the information that the Ontario government has in this matter, which it has gained from a practical undertaking of the distribution. There is no question as to the power of the State commission to undertake to carry out what is necessary to make this water most efficient to the people of the United States, whether imported from Canada or generated here.

Mr. SHARP. Then you would not quite agree with Mr. Brown's statement that there would be no right or authority to impose conditions under which we could import?

Mr. SCOVELL. I assume, upon the assertion of the gentleman from Detroit, when he answered very frankly a question a little while ago wherein he indicated there would be no desire on his part to do a certain thing, that there will be a desire on the part of the Niagara Falls Power Co. or the Hydraulic Power Co., through their attorneys, to test the common law of riparian rights with respect to the water as between the State and any person to whom the State may grant it.

Mr. BROWN. As a lawyer, don't you generally take the same position under the general principles of law?

Mr. SCOVELL. I do, on the common-law basis; but I do believe that the common law is subject to change by statutory law, and in this case not only is it changed by statutory law, but we have gone one step further on this change and the relative rights have been placed by a treaty which is the supreme law of the land and which can entrench upon the Constitution.

Mr. BROWN. Speaking now of the question of importations, as the treaty does not prohibit importations, don't you think the use of the power should be unrestricted, both from a legal standpoint and from the standpoint of policy?

Mr. SCOVELL. You were thinking about imported power?

Mr. BROWN. Solely.

Mr. SCOVELL. I was speaking before as to riparian rights. Let me understand your question as to imported power.

Mr. SHARP. I asked the question. I referred to the imported product, and I was asking if you agreed with the statement of Mr. Brown that we have no right to impose conditions of different kinds, whether it be price or quantity, upon the importation of the power?

Mr. SCOVELL. As far as that is concerned, I believe that you have that right as to what is imported, to determine the terms.

Mr. FOSTER. To restrict it, you mean; to prevent its being imported at all?

Mr. SCOVELL. No; you can not prevent, I think.

Mr. FOSTER. We have the right to regulate it?

Mr. SCOVELL. We have the right to regulate it.

Mr. SHARP. And impose conditions?

Mr. SCOVELL. Yes. The question is whether you shall keep that to yourselves or whether you will give it to a commission such as was suggested yesterday by Mr. Doremus. He introduced a bill yesterday for the establishment of a commission in the United States which should govern prices at which power should be sold.

Mr. FOSTER. I have not talked with him, but I suppose he believes we have the right to prevent its importation, and that, therefore, he is in favor of it because in that way he hopes to preserve the scenic effects.

Mr. SCOVELL. I believe he thinks we have that right.

Mr. FOSTER. Do you agree with him on that?

Mr. SCOVELL. I can not judge that as a lawyer very well. I had to do with the question of importation of natural gas and whether it is subject to duty. As far as the United States is concerned, it was determined that we had the right to import natural gas and that it was not subject to duty.

Mr. COOPER. By whom was it determined?

Mr. SCOVELL. I believe by the highest courts of this country. As far as the courts of the State of New York are concerned, they have decided that the water of Niagara River, although the State owns the bed of the stream, is flow water and is like air, or light, or the heat of the sun; that it is public and belongs to him who first impounds it.

Mr. BROWN. You mean to say that that is the law of the State of New York?

Mr. SCOVELL. Yes, sir.

Mr. BROWN. I disagree with you, and the courts of New York disagree with you.

Mr. GARNER. May I ask you a question? I want to get at what your views are with reference to two or three propositions involved in this.

Mr. SCOVELL. Just a moment. The reason I said that is this: The question as to the right of these several corporations to take water from the river—it has been determined by the courts that this is not a grant of water, but is a grant of permits. Otherwise they would all be unconstitutional, null and void, because they were not passed, two-thirds being present.

Mr. FOSTER. I was referring to the treaty. We have made the treaty. I am not expressing my views about it. We have a treaty by which we are permitted to take so much water and Canada is permitted to take so much water for the development of power. Now, the question that arises in my mind is where we get our right to say what Canada shall do with the power.

Mr. SCOVELL. You have no right whatever to say what Canada shall do with her power. She can restrict its being sent to the United States if she wishes that.

Mr. FOSTER. Yes; but if she wants to send it to the United States, can we restrict it?

Mr. SCOVELL. I should think not.

Mr. BROWN. I agree with you there.

Mr. SCOVELL. I think the Burton law is a bad law, but we never expected it would be continued along indefinitely. We abided by it without testing it because we never expected it would run for six years.

Mr. SHARP. Do you think we would be compelled to accept a power or current sent from there over here?

Mr. SCOVELL. The distribution and sale of it to the citizens of the States rests upon the law of that State; and if there is a commission that determines those things, it will be determined by that commission.

Mr. FOSTER. If it is once sent over here, then it will be subject to such regulations?

Mr. SHARP. Oh, yes; it would only be an academic discussion as to whether they had a right to send it over here.

Mr. SCOVELL. If we put in a provision that they could not send it over here except as they sold it at \$4 a horsepower, then the question would be academic.

Mr. COOPER. Do you say the United States can not pass a law prohibiting the importation of electric power from a foreign country?

Mr. SCOVELL. That is my impression.

Mr. COOPER. Is it any more than a very vague impression? Is not this United States Government absolutely supreme beyond the power of any Government on earth to force a thing inside the boundary without its consent?

Mr. FOSTER. Oh, yes. But what provision in the United States Constitution prevents me from importing electricity if I want to?

Mr. SHARP. The United States Government can prohibit you from buying broadcloth from a foreign country. The right over commerce with foreign countries is absolute, without any sort of qualification whatever, and the Government can prohibit it as it did at the time of the embargo law. There is not any doubt about it in my

mind. It can stop the importation of dry goods, and why can not we stop them from forcing power in here?

Mr. SCOVELL. We can not stop them from sending wireless messages. I have talked between New York and Toronto without wires.

Mr. COOPER. That is not a parallel case. I suppose you could have a man standing on each side of the boundary line, and one of them by signs threaten to lick the other man. I am talking about a subject which involves the putting up of conduits and wires for carrying power—

Mr. BROWN. May I make one suggestion? If the Government has power to prohibit importation directly by a straight unqualified prohibition, or indirectly by restrictive terms, must not that be enforceable as to all acts, persons, and places? Can the Government make a restriction, as I said yesterday, that is not general?

Mr. SCOVELL. The whole international boundary is under purview in this.

Mr. COOPER. That the Government of the United States can pass a law prohibiting the importation of electric power from a foreign country, I should say, would be in law absolutely incapable of contradiction.

Mr. BROWN. Even the Burton law does not attempt that.

Mr. COOPER. Now, Mr. Scovell, don't you think that the United States can by statute prohibit the importation of power?

Mr. SCOVELL. I have not looked that up, but I think perhaps it can. The Burton law is not such a law—

Mr. COOPER. The question was asked, without regard to a particular locality, as to whether the United States Government could stop the importation of electric power, and you gave it as your impression that we could not do it. If it can not the United States Government is not supreme.

Mr. SCOVELL. I understand that in any question of importation or exportation the United States would be supreme.

Mr. COOPER. Absolutely without qualification. The embargo law passed a century ago shows that.

Mr. FOSTER. The embargo law did not last long.

Mr. COOPER. It lasted long enough to show that Congress could pass a law which absolutely prohibited the importation of anything from certain countries.

Mr. GARNER. Now, I want to get down to some more practical ideas, or rather get your ideas of what ought to go into this bill. Let me see if I can get your position as to what ought to be done. You want, in the first place, the 4,400 feet to come in?

Mr. SCOVELL. To be made available.

Mr. GARNER. You want the full capacity of the 20,000 feet to be utilized by this Government?

Mr. SCOVELL. I want it utilized on this side.

Mr. GARNER. Of course, if it is utilized at all, it will be utilized on this side. In addition to that, you think New York ought to have the right to control this power when it is utilized?

Mr. SCOVELL. I do, not only with respect to the 4,400, but the whole.

Mr. GARNER. The entire 20,000; that is what I believe I said. In addition you believe New York ought to be permitted to utilize and control 500 additional cubic feet?

Mr. SCOVELL. It does not make any difference how much it is—the surplus waters of the Erie canal.

Mr. GARNER. Then you believe that the power should be permitted to come into this county, as much as possible from Canada, and that the control and regulation of that power should be left to New York?

Mr. SCOVELL. I do.

Mr. GARNER. With those provisions in a bill, it would nearly perfect the treaty?

Mr. SCOVELL. Nearly.

Mr. GARNER. Now, what have you to say with reference to the desire of the State of Michigan to receive some of this power?

Mr. SCOVELL. They would not take any of the United States power. They are simply asking for some of the Canadian power.

Mr. GARNER. They ask for the importation of it. Do you mean we should put the entire importation of power into the hands of the commission of New York?

Mr. SCOVELL. I do not. Simply give it to the control of the State into which it passes. It would not make any difference if it was in Minnesota, or Michigan, or down at Ogdensburg where they take the power from the St. Lawrence.

Mr. GARNER. Whatever State it may be imported into, the laws of that State should control the power after it reaches the State?

Mr. SCOVELL. Yes, sir.

Mr. GARNER. Well, I don't know but what I agree with you.

Mr. SCOVELL. The question that comes to my mind as the result of the thought I have given to it, if during the year since we originally planned the changes in the Root bill which are embodied in the Simmons bill before you, seem to have resulted in my reaching the conclusion that it is undesirable that any more strings be tied around the use of the 4,400 cubic feet such as would be the result of requiring the consent of the American members of the joint high commission; and I am ready to say that whereas then we had no conservation commission in the State of New York, and whereas now we have newly constituted authorities in the form of a conservation commission, that it would be sufficient to provide that the permits should be issued by the Secretary of War on the recommendation or with the consent of the conservation commission of the State of New York, and on such terms and subject to such regulations as they should impose, the same to be true as to other States along the boundary where importation may occur.

Mr. GARNER. But your broad proposition is this: That as far as the Federal Government could go is to see that not more than 20,000 cubic feet per second is taken out on this side, and that should be left to the Secretary of War; that that far we should go and no farther, leaving the rest of the details and regulations to the States that take this power?

Mr. SCOVELL. Exactly, whether imported or generated in this country.

Mr. HARRISON. Suppose we should pass such a law as this, giving States power to regulate rates, and they should pass laws ordering a certain rate to be charged and the companies should enjoin the enforcement of that right on the theory that we had authority here, that it was a Federal proposition, do you think that would avail them anything?

Mr. SCOVELL. I do not.

The CHAIRMAN. Have you concluded?

Mr. SCOVELL. I have.

STATEMENT OF MR. ALBERT F. EELLS.

Mr. CHAIRMAN. Will you give the reporter your name and whom you represent?

Mr. EELLS. My name is Albert F. Eells; I represent no one but myself.

Gentlemen, I have but a crude outline of my plan, as when I received notice of this meeting I was gathering facts bearing on this subject and am unprepared in many details. What I propose to do is this: To build a power house below the cliffs at Niagara Falls, which will be constructed with a granite front and over the roof of which will pass the waters of Niagara River. Then the water will fall over the front of the structure and be equally distributed over the entire front, hiding it entirely from view. The crest or front of this building can be formed to produce any effect on the falling water desired. The cliff now there could be copied if desired. The crest could also be raised to any desired height. This falling water can be utilized at the base of the power house to operate wheels made especially for that purpose, which can be connected with generators for generating electricity. These wheels are also invisible from the outside, as is also the entire structure. A gallery may also be made in such a manner that visitors can pass safely under the entire waterfall.

To accomplish this object it will be necessary to divert the water from the part of the Falls where the workmen are operating, and for this purpose I shall require an international permit; also a permit to remove the loose stone now laying at the bottom of the Falls, and possibly a permit to lower the river below the Falls by removing some obstructions down the gorge, and, as the scenic beauty of the Falls will be augmented and the Falls preserved from disintegration, after finishing this work, I think I should be paid a specified price for doing this work. This is the situation at present at the Horseshoe Falls: The water is eating up into the cliff at the rate of between 5 and 6 feet a year. In a few years we shall see nothing of the Canadian Falls excepting a gorge with some fog at the mouth of it. By this plan the scenic beauty of the Falls will be augmented, the water level in the river will be slightly raised, the water passing over the Falls will be utilized for a power, and the people will be receiving a benefit of a great electrical power; also employment in the construction and operating.

Gentlemen, this is a blue print which I got down at the engineers' office and which I suppose is the largest of the Niagara Falls and the Horseshoe. Being a little dim to look at from a distance I had a tracing made which shows it so that the whole committee can see. This [exhibiting drawing] represents the Horseshoe. This is the 1875 line. The upper edge of the black line is where the Horseshoe is at the present time. It is gradually eating up into the stone at the rate of between 5 and 6 feet a year, and that in a short time is going to make a gorge up in here and the only thing we shall see of Niagara Falls will be a gorge and a little steam at the mouth of it.

I have means of preventing this. You see this red line [indicating]. I propose to put a granite wall in there for the water to flow over, which can be made perfectly level and distribute the water all over the surface of the Falls. Behind this wall I would put a power house. For the foundation of that power house stone would be dumped in until it got up to a level with the water or higher. On that would be put pillars, on which would be put a roof, and over that roof would flow the water. This wall can be made to take any form necessary, and we could have any effect of waterfall desired. Now this water after passing over the falls would entirely cover this line [indicating], which would be the front of the fall. At the lower part of this power house I have wheels which would be operated by the falling water to generate electricity, and instead of having a famine of electricity we would have a very large amount of it to use.

Now, how I am interested in the matter is this: I have a patent for using a deflecting front for a waterfall; that is, for putting a power house behind a wall. To do this it will be necessary for me to divert the water from the Horseshoe and from other parts of the falls, and to do that it will be necessary to get an international permit for the work. So I come before you people to find out what your feeling would be in this matter. Of course, if you are opposed to it that ends the matter.

The CHAIRMAN. Isn't that a different proposition from the one we are considering?

Mr. EELLS. I do not know.

The CHAIRMAN. It has no relation to it, Mr. Eells, has it?

Mr. EELLS. It has nothing to do with that treaty; no, sir.

Mr. COOPER. How fast did you say the water was eating back?

Mr. EELLS. Between 5 and 6 feet a year, according to measurements. You can see it here on the blue prints.

Mr. FOSTER. Do you know how much it would cost?

Mr. EELLS. I have not got the details yet. I want to say if this should be favorably received by the committee it is going to be an expensive matter. Of course, I wish to get the ideas that would be brought out before this committee and I would like to get their idea as to whether they will look upon this favorably or unfavorably. It is going to be an expensive matter to get these details of the cost and, of course, I do not wish to spend the money myself unless this would be received favorably. Of course, if the gentlemen here feel unfavorable we will drop this matter right where it is.

Mr. FOSTER. It seems to me we would have to get a new treaty.

Mr. EELLS. I do not see what it has to do with the treaty. This is unseen altogether. This is all behind the Falls. None of my works are in view.

Mr. FOSTER. I mean with regard to building that wall.

Mr. EELLS. I do not ask you to spend the money. I will supply the money; I or my associates.

Mr. HARRISON. How will you be reimbursed for your expenditures?

Mr. EELLS. By the electric power. It will be something like 2,000,000 horsepower. We propose to use it all; that is, when it is wanted. It would not affect the water below the Falls.

The CHAIRMAN. Have you made application to the commission in Canada?

Mr. EELLS. I have been over to Canada and they seem very enthusiastic. You see, they charge so much per horsepower for the water which is used, and they see an opportunity of getting more revenue.

The CHAIRMAN. They have most of the Falls. Don't you think it would be a good idea to get their permission first?

Mr. FOSTER. I think you will find us just as enthusiastic as Canada, but I think, perhaps, as the chairman has suggested, that Canada should take the lead. Canada turned us down on reciprocity you know.

The CHAIRMAN. We will hear Mr. Watrous, the secretary of the American Civic Association.

STATEMENT OF RICHARD B. WATROUS, SECRETARY, AMERICAN CIVIC ASSOCIATION, WASHINGTON, D. C.

The CHAIRMAN. Mr. Watrous, will you give the reporter your name and whom you represent?

Mr. WATROUS. Richard B. Watrous, representing the American Civic Association, of which I am secretary.

Mr. Chairman, in taking some time at this late hour of the day, I want to say that we had hoped very much that the president of the association might be here this week, for he has been before similar hearings and discussed this subject and is known as an authority upon the subjects we represent, particularly on all matters concerning Niagara Falls—Mr. J. Horace McFarland. At this time I desire to say that he will probably be here next Tuesday, and we shall need, and I presume we can have, additional time to present the case as we see it.

The CHAIRMAN. We shall be glad to hear Mr. McFarland.

Mr. WATROUS. In my position, gentlemen, I am reminded somewhat of a certain meeting where a revival had been in progress for some time and the minister had asked all those who wanted to go to heaven to stand. The entire congregation arose. He had just propounded the question whether there was anyone who wanted to go to the other place when a wayfarer walked in, followed an uneven course down to the front where he stood unsteadily. The minister said, "Are you the only one that wants to go to hell?" He replied, "Well, parson, you seem to be all alone, so I am willing to go with you." I have had a feeling in the presence of this august audience composed of president, attorneys, and engineer experts of the power companies, that I was almost alone. But I am not alone, Mr. Chairman, because I have back of me the hundreds of thousands and millions of people of this country who believe that scenic glories such as Niagara Falls are things that have more than a commercial asset.

In this connection, may I be permitted to say just a little about the American Civic Association, which has been somewhat maligned in one or two cities represented here to-day, because it has spoken plainly concerning the falls. It is composed of thousands of representative men and women of this country, including some hundreds of affiliated societies which represent hundreds of thousands of individuals. There is numbered among the members of this association the President of the United States, who joined voluntarily when he was Secretary of War. There are other members in the Cabinet.

There are influential men and women of all the States. They have been heard from on several former occasions when this matter was to be fought out. You, as Congressmen, and the gentlemen in the Senate, know that you have heard from them in letters and in telegrams, and they have come from every section of the country. The association represents the consolidation of State and interstate societies organized for specific purposes which are mentioned in the circular which I hold in my hand. I am going to read from that the objects of the association, so that you may know what they are:

The cultivation of higher ideals of civic life and beauty in America, and the promotion of city, town, and neighborhood improvement, the cultivation and development of landscape, and the advancement of outdoor art.

I am going to ask the chairman for permission to hand that to the reporter to be included in the report of this hearing.

The circular referred to is appended, marked "A."

I am very glad to be an officer of that association. I also want to state that I am very glad to have had some years of contact with a distinctly business organization, so that I appreciate the value of business organizations—I mean aggregations of capital—and the important service they render to the country. I have never been considered as one who is out continually with a hammer against such organizations. I desire to say—and I know I speak the sentiment of the president of the organization—that it is not because of ill-feeling toward the power companies that we have contended for the preservation of the falls, but for the larger devotion to the people of this country and of the world who appreciate the beauty of a scenic wonder such as Niagara Falls. I have felt this afternoon that we have gotten away from the thought of scenic beauty. We can not forget that all these hearings and the hearings before the Committee on Rivers and Harbors and a large part of the hearings which resulted in the treaty are due exclusively to the idea that Niagara is a scenic wonder and ought to be preserved as such. Different phases of the question have been presented at length by attorneys and by engineers, but I believe I am the first one so far to speak of the value of the Falls as an asset to all the people from the standpoint of its scenic glory.

I do not want to try to discuss or enter into an argument as to the statement made yesterday concerning the vested rights of the power companies. I am reminded, however, that possibly there is a prior right to the falls, prior to those acquired by the companies there, as possibly illustrated by the photographs we have submitted of pictures made more than 100 years ago—a right of the people to the beauty of the Falls, a right which existed and was used long before we thought of using the water as a source of power.

The CHAIRMAN. Have you any official records of the erosion of the Falls?

Mr. WATROUS. I have not.

The CHAIRMAN. Could you get that?

Mr. SPENCER. I can get a statement of that and give it to you when I come to speak.

The CHAIRMAN. We would like to have that go in the record.

Mr. WATROUS. Mr. Spencer, who has just spoken, is a recognized authority on the Falls. My bible, however, is the reports, or reports combined into one, of the War Department, particularly of the Corps of Engineers.

Mr. FOSTER. Would it interrupt you to ask a question right there? I think I should understand what you are saying a good deal better if I knew what you want to have us to do. Apparently the two Governments have adopted a policy with reference to using a certain amount of water there and have entered into a treaty regarding it. Now, if you could tell us in a word just what you want to have us do, then I could adapt what you have to say to that statement and go along a little more intelligently.

Mr. WATROUS. I can tell you, I think, in a few words. I am only going to impose upon you for just a few minutes longer. I want to dwell just a moment on this matter of recognition of scenic beauty as a material asset, and I am going to submit here, to be filed and recorded, a decision in the circuit court of the United States rendered within the past year or two in Colorado concerning a case between The Cascade Town Co. and The Empire Water & Power Co.

The opinion referred to is appended, marked "B."

Mr. FLOOD. Mr. Foster did not desire to cut you off. His idea was for you to state what you proposed that we should do with reference to this 4,400 cubic feet of water and importing any more water.

Mr. WATROUS. I should be very glad to state that.

Mr. COOPER. Perhaps Mr. Watrous has his remarks arranged and desires to put them in in logical order to make them as effective as possible.

Mr. WATROUS. Briefly, Mr. Chairman, we stand just where we have been standing since we took up the consideration of the preservation of Niagara Falls. We stand for the limitations as prescribed by the Burton bill, both as to diversion on the American side, namely, 15,600 cubic feet per second, and the importation of power from Canada, namely, 160,000 horsepower. Our stand is confirmed by the latest reports which have been issued from the War Department, concerning which I shall have something to say.

I am going to ask that I may return to the introductory part of my remarks and say that the American Civic Association, in this striving for a preservation of the falls, has had the approval and cooperation not only of individuals but of many of the very representative business organizations of the country, and I want to submit for record a telegram which was sent on the 17th of last February by The Merchants' Association of New York urging in strong terms that the provisions of the Burton bill be extended.

The telegram referred to is appended, marked "C."

With regard to the desire of the city of Detroit to import cheap power, I want to submit to you a letter quoting letters that were sent to Senator Burton and to members of the Senate committee by Mr. J. L. Hudson, of that city, the proprietor of the largest retail store in the city, director of several banks, and a vice president of the board of commerce of that city.

The letter referred to is appended, marked "D."

I should also like to submit a very strong editorial from the Detroit Times of July 3, 1911, entitled, "Every pound of power from Niagara is a pound added to the people's load."

The editorial referred to is appended, marked "E."

Right here let me say that the power companies themselves may thank the American Civic Association for having been very zealous to secure

the reenactment of the terms of the Burton bill. For some reason or other it seemed to have been overlooked that with the expiration of that bill there would be no license for the use of water or importation of power. At the time I appeared before you, in June, I submitted, as the best evidence of that action, a letter, written on the 27th of June by the Secretary of War to the Speaker of the House of Representatives, stating the exact situation and telling what would happen with the expiration of the bill. I submit that letter again.

The letter referred to is appended, marked "F."

I believe that all of us are agreed that legislative action is necessary. I certainly am convinced—because I know of its efficiency and because I have a natural affection for the Army—that the War Department should be the department to have control, but there can be no difference of opinion as to the necessity for such action. As I said, my Bible, so far as figures and recommendations concerning the diversions of water are concerned, must be the reports of the Board of Army Engineers. We have had presented to us in printed form within the past week or two Senate Document No. 105, which contains the report of a distinguished Army engineer, Maj. Keller, which was completed, I believe, in the fall of 1908. I at times confess to a doubt, Mr. Chairman, that that report, which undoubtedly was called for for the express use of the commission in preparing the treaty, was ever brought to the attention of that commission. For some reason or other its publication has been delayed for more than two years, and we who have been following that question have not had the benefit of the observations and conclusions of the Army engineers.

Mr. BROWN. It is a fact that the commission had the use of all those things?

Mr. WATROUS. They should have had them, but some of us who made a zealous hunt for this particular report could not find them. It has been laid away somewhere for some reason which I can not understand.

Mr. COOPER. Gen. Bixby said that that was given by the Secretary of War to the President on the 19th of last August, and published on the 29th or the 31st. At any rate, it was handed by the Secretary of War to the President two days before it was published, and two years and seven months after it was made.

Mr. WATROUS. I should say that, in the letter of the Secretary of War, it is stated that, for executive purposes, its publication was withheld, and I can understand that in negotiating a treaty there are things that must be held confidential. I am impressed with the statements made by this Army engineer and his recommendations. I want to read again, as was read the other day by Mr. Cooper, the conclusion of this Army officer's report, to whom was assigned specifically the consideration of this question from the standpoint of scenic beauty. He says:

Accordingly, I earnestly recommend that (unless the remedial works just suggested be built) the minimum limits of diversion authorized on the American side, namely, 15,100 cubic feet per second, be reenacted, and that no greater amount of energy be permitted to be imported into the United States from Canada than 160,000 horsepower.

Mr. FLOOD. What is that you are reading?

Mr. WATROUS. Page 15, of Senate Document 105, given to us a week ago. Those are specific recommendations making allowance for a plan proposed by an assistant engineer who suggested a submerged dam at some point in the Niagara River which might have the effect of spreading the water. That I am not prepared to consider; it is one of those problematical things. However, that report is very definite and yet notwithstanding that fact, the treaty allows an increase of 4,400 cubic feet and has not set any limitations as to the importation. Bear in mind, however, that the treaty says there "may be" a diversion of 20,000 cubic feet; it is not mandatory, and it is evidently left to Congress to decide what it shall be. It should be borne in mind also that as has been shown in the reports or statements made during the past two or three days, that not all of the water that might be permitted to be used has been used and that the damage to the Falls which is mentioned as having been done was done as the result of taking not 15,000 cubic feet, but 13,000 cubic feet in round numbers. Therefore to extend the amount now by 4,400 cubic feet, we think, would be a very large increase.

Coupled with that is the very important presentation as to the waste that goes on with some of the companies, notably one company which is mentioned by name, where the waste is reported as 33½ per cent, to which I had the pleasure of calling your attention at your session on Tuesday—a waste of more than 2,500 cubic feet, which if transferred to water power, using the highest estimate, would mean something like 50,000 horsepower in round numbers. That shows that by a management which utilized what was given them there would be available a great increase of horsepower.

I had the pleasure yesterday of bringing out also, as I thought, the fact that there does not seem to be any very urgent need just now for increased importation when it is recalled that out of the 160,000 horsepower which might be used, but 110,000 has been used, or possibly 115,000. I am using the statement of Gen. Greene at the hearing a year ago for the 110,000. There is also a permit existing to a company which for some reason has never used it, and which it would seem to me might be transferred to some company that would use it, and it would take care of the request of Detroit for 25,000 horsepower and still leave 25,000 horsepower.

Now, it has been shown that most of the damage to the Falls on the Canadian side is due to the fact that much of the water that is drawn off on the American side comes from the Canadian side of the river. When the Burton bill was originally drawn it was, of course, realized that it was impossible to say to Canada what they could or could not divert, and we had to resort to a method of protection by indirection, and believing that Congress had power to act, that clause was incorporated in the Burton bill which provided for the limitation of the amount of power that could be imported, namely, 160,000 horsepower.

In the face of the very disastrous possibilities to the Falls, which we think existed at that time and which we still think exists, as shown by the reports of the Army engineers, we insist that the limitation should be kept up now and under the treaty. The statement has been made that if we do not allow our people to import up to the limit of the development over there, there is going to be a very large

Canadian development. That does not worry us greatly—and I think we are practical; I certainly want to be practical.

There is a principle at stake, and it is a principle which is coming to be recognized more and more. You gentlemen, as members of a committee of Congress, know that Congress is not legislating for Buffalo, or for Niagara, or for Detroit; you are legislating for the Nation. The Nation believes that in Niagara Falls it has a heritage which contributes to recreation, to pleasure, and to good health. The courts are coming to recognize, and we believe will recognize more and more as the years go by, the rights of the people to those things which contribute to recreation, and to pleasure, and to good health. The case which I have cited is a direct case, and under the jurisdiction of one of the United States courts. With this waste, showing what might be utilized, we are convinced that there is no practical need for increasing the amount on the American side. We are particularly impressed with the idea that because of the danger to the Falls on the Canadian side, which we all know is greater than on the American side, we must continue, by indirection at least, to prevent that ruin to the Falls by keeping up the limitation on the importation. Briefly, as Mr. Foster requested, our belief is now as it was last June when we labored to get the bill extended before the time might expire, and when just by a stroke of good fortune we were able to get it reenacted in the closing days of Congress—we believe now more than ever that the original terms of the Burton bill are the ones to be adhered to.

The CHAIRMAN. In that connection let me ask if your association has ever appealed to the Dominion of Canada, or the Province of Ontario, not to take any more water for power purposes?

Mr. WATROUS. I know that an appeal has been made, not by myself directly but by other officers of the association, some years ago. It is reported that in a conversation between our president, Mr. McFarland, and Ambassador Bryce that the ambassador said if he could have his own way he would be glad to have a party in arousing Canadian recognition to beauty in the Falls. Up to the present time we have not discovered that Ontario has paid any particular attention to the scenic value of Niagara, although we are informed that one of the leading newspapers of Toronto is an enthusiastic defender of the preservation of Niagara from the beauty standpoint.

The CHAIRMAN. Do you or do you not believe that Canada under the provisions of the treaty will use all the water she is entitled to use?

Mr. WATROUS. I wish you would make that a little more definite. I do not think they will use it within the next two or three years.

The CHAIRMAN. Whenever they want to use water?

Mr. WATROUS. Eventually they may, but I do not believe that inside of two or three years there is going to rise up a lot of new cities that will use power.

The CHAIRMAN. In other words, you have no doubt that Canada will take advantage of the terms of the treaty and use whenever she wants to use it the entire 36,000 cubic feet of water?

Mr. WATROUS. From the physical and structural standpoint I have a good deal of doubt of any such immediate utilization.

The CHAIRMAN. When they want to use it, they will use it?

Mr. WATROUS. Possibly.

Mr. FLOOD. If they do it will be some time in the future, won't it?

Mr. WATROUS. Yes, sir; I have not allowed the Canadian situation to be very much of a bugaboo in my own mind.

The CHAIRMAN. You are requesting the committee to stop the importation of power from Canada to the extent that it is now restricted under the terms of the Burton Act, and also to prevent this additional 4,400 cubic feet of water being utilized on this side?

Mr. WATROUS. Yes, sir.

The CHAIRMAN. That is your position?

Mr. WATROUS. Yes, sir; and it is the position I take based on the reports of the Army engineers.

The CHAIRMAN. If the people on the American side use the amount of water they are allowed under the treaty of 20,000 cubic feet a second, do you believe, from your knowledge and investigation, that it will injure the scenic beauty of the Falls?

Mr. WATROUS. I believe it is based on the report of the Army engineers.

The CHAIRMAN. Gen. Bixby said the other day that it would be unappreciable.

Mr. WATROUS. I doubt if I could discover it with the naked eye, but the investigations and the observations are to the effect that there has been an appreciable withdrawal of water from the Falls. It has been unfortunate, in the opinion of most of us, that there has been any.

The CHAIRMAN. Do you believe the erosion going on injures the scenic beauty of the Falls?

Mr. WATROUS. Yes, sir.

The CHAIRMAN. That it has something to do with it? We can not change natural laws.

Mr. WATROUS. We can not really interfere with the operations of Mother Nature.

The CHAIRMAN. Quite true. The question is whether taking this small amount of water injures the scenic effect of the Falls, or whether the injury to the Falls is not on account of geological action and beyond our control?

Mr. WATROUS. Not according to the reports that are made. The water taken away has had the effect of reducing the amount going over the crest of the Falls. That is a different proposition from the receding of the brink of the Falls.

Mr. FLOOD. There was a gentleman here just now with a proposition to stop that.

Mr. WATROUS. I have not read his complete statement.

The CHAIRMAN. It will be in the record.

Mr. WATROUS. I read this letter of Mr. Hudson, Mr. Chairman, as the expression of a business man for whose ability I have the greatest admiration. He writes to Senator Burton under date of May 6. Bear in mind, this is Detroit, where it is alleged they are so keen to get cheaper electricity. By the way, seriously speaking, have we discovered that these cheap things ever amount to anything? When there is one company that has an established rate, does it often happen that another company comes in and gives us anything cheaper? Mr. Hudson writes:

I am exceedingly interested in Niagara Falls. For 40 years I have been in the habit of going there. I have never seen anything that compares with the Falls in grandeur, and I have been utterly opposed to diverting the waters from their natural course.

I think we made a mistake in giving the power companies any rights there at all. They now use 34,000 cubic feet per second and want 56,000. I feel very earnestly that their request should be denied. The enormous amount of water that went over the Falls before any of it was diverted was none too much, and now in many places the decrease is noticeable.

A pretty good statement from a recognized business man. You can not say it is sentiment. The other day we were alleged to be suffering from neurasthenia. I hope not; but the sentiment of the people as it has come to us, as it came to us in 1906 when we first took up this matter, and as it has been renewed, caused us to lead in the effort to get the Burton bill renewed.

Mr. FLOOD. Is it a fact that they are using 34,000 feet?

Mr. WATROUS. He says 34,000; I should think it would be 26,000. He may have stretched that a little. Whatever they are using it has been sufficient to do more or less damage to the Falls.

Mr. FLOOD. Less than half what they proposed to use?

Mr. WATROUS (reading):

I am forced to state that existing diversions have already seriously interfered with and injured the scenic grandeur of Niagara Falls at the Horseshoe, and that this injury and interference will probably be soon emphasized by the effects due to the prevalence of lower stages on Lake Erie and the upper lakes.

The CHAIRMAN. Who made that report?

Mr. WATROUS. The Chief of the Army Engineers.

The CHAIRMAN. What is his name?

Mr. WATROUS. I am not sure. I think at that time the Chief of Engineers was Gen. Marshall. It was that statement that led us to make such an urgent appeal for the renewal of the terms of the Burton bill a year ago, and last June and last August. That is the statement of an expert. I believe in the service of experts. Understand, we are carrying on a wide range of good work, we think. We are urging cities to do comprehensive city planning; we are proposing a bureau for our national parks, and we believe in the service of experts. In the handling of Niagara Falls we believe in experts, and believe we have those experts in our regular department of the Army.

If you want someone to whom you could put more detailed questions, I ask you to await the appearance of Mr. McFarland, who is in a position to answer those more adequately than I can hope to. I know and you know, gentlemen, because you have had expressions from them, that the sentiment of the people at large is growing more and more in favor of recognizing the value of these scenic wonders and particularly of Niagara Falls.

There are other ways of getting power that I can cite you if you do not know of them already. There is the wonderful power development going on in North Carolina where they are developing power from small mountain streams without working any great injury to any number of people from the scenic standpoint. Do not think that we are attacking all power propositions. We are not. We have been standing steadfastly for the preservation of Niagara Falls, notwithstanding the demands of these great companies who wish to make money from them. Only recently we were urged to lend a hand to the preservation of certain falls down in Georgia. It did not seem to us that it was a national undertaking of sufficient importance to enlist our attention. We have realized that Niagara

is the one great thing. You do not need to be told by me that the people of foreign countries know only of Niagara Falls when they think of scenic wonders in the United States.

The CHAIRMAN. Did your civic association oppose the ratification of the treaty when it was under consideration?

Mr. WATROUS. We were in consultation—I was not; it was not my good fortune to be secretary at that time—with the Secretary of State and with the ambassador. We were called upon for our views, and we were given to understand that the treaty would very fully recognize the demands of the people for the preservation of the beautiful. I am going to tell you frankly that I am not well satisfied with the treaty. I do not think the treaty comes up to the demands at all.

Mr. CHAIRMAN. It is the supreme law of the land, is it not?

Mr. WATROUS. I believe that it is.

The CHAIRMAN. We ought to carry out the treaty.

Mr. WATROUS. We can do it. There is nothing mandatory about the water that may be taken from the American side. It says there may be a diversion of 20,000 cubic feet a second, and Congress certainly has the power to decide how much of that may be used.

Mr. FLOOD. That is a right that is given to American citizens which we need or need not exercise as we choose, as we see fit.

The CHAIRMAN. You are firmly of the opinion that the diversion of the water is injuring the Falls?

Mr. WATROUS. Yes, sir; I am firmly convinced of that.

Mr. COOPER. New York is preserving the Palisades, is it not simply as a matter of scenic beauty?

Mr. WATROUS. Yes, sir.

Mr. COOPER. They were blasting them down to secure stone for paving purposes.

Mr. FLOOD. Do you think the diversion of 26,000 feet of water has already injured the scenic beauty of the Falls? I understand that at this time they are diverting 26,000 cubic feet a second; 15,000 or more on this side and 11,000 on the Canadian side. Do you think that has already injured the scenic beauty of the Falls?

Mr. WATROUS. I do; yes, sir.

Mr. FLOOD. Then to divert 56,000—

Mr. WATROUS. Would be, I think, very, very injurious. I think there is only one way to stop it on the Canadian side. We can not tell them what they can do, but we can say that there shall be a limit on the importation.

Mr. FLOOD. They raised the vested rights question six years ago, did they?

Mr. WATROUS. The question as propounded by Mr. Brown as to the vested rights of the companies was very, very thoroughly considered, I am told, by the waterways commission and the others who drew up the Burton bill, and it has always seemed to us that if the companies, believing they had such a vested right, were so thoroughly convinced of it they ought to have put it to the test right then and there. They might have saved themselves a great deal of money—surely much peace of mind and relief from the attacks on them. Now, for their peace of mind, why don't they put it to the test?

Mr. BROWN. Those rights were recognized not only by the Burton law but by the treaty.

Mr. WATROUS. It should be borne in mind; Mr. Chairman, that when the Burton bill was drawn it was recognized that there were existing power companies that had put up large amounts of money for their plants, and it was for that reason that we mentioned in the Burton bill who was to receive the permits. I am going to read a paragraph written by our president.

Mr. FLOOD. What is the extent of the life of a power company?

Mr. WATROUS. It is a perpetual charter, as far as the companies are concerned. The life of the treaty was to be five years.

Mr. SCOWELL. The law of the State of New York provides for corporate existence by allowing certain certificates whether you are chartered by act of the legislature or incorporated under State law.

Mr. WATROUS. I am not prepared, Mr. Chairman, to speak very definitely of the New York phase of this proposition. It does occur to me, though, that as between the States and the Nation we have the old-fashioned idea that when the Federal Government is back of a proposition it is back of it a little stronger than when it is backed by a State. I presume now that I am getting off onto questions of law that I have not a right to talk on. You know how our State policies change. They are likely to be changed very often. I do not see any particular reason why Congress should give up that jurisdiction. You would have the question of jurisdiction always before you.

Mr. BROWN. Mr. Watrous, on what do you base this right of Federal control to protect scenic beauty?

Mr. WATROUS. They have got the right up there; it is a navigable stream, and it is a boundary line.

Let me read this extract from the decision which is cited in that Colorado case:

We say that the creation of a summer resort is a beneficial use. Is it a benefit to the public to spend money in making a beautiful place in nature visible and enjoyable? Is it not in line with public health, rest, and recreation? If a person takes a stream and, after putting in waterfalls, ponds, bridges, walls, shrubbery, and blue-grass sod, works it into a beautiful home, that is a beneficial use. It is a benefit to the weary, ailing, and feeble that they can have the wild beauties of nature placed at their convenient disposal. Is a piece of canvas valuable only for a tent fly, but worthless as a painting? Is a block of stone beneficially used when put into the walls of a dam and not beneficially used when carved into a piece of statuary? Is the test dollars, or has beauty of scenery, rest, recreation, health, enjoyment something to do with it? Is there no beneficial use except that which is purely commercial?

It would seem that parks and playgrounds and blue grass are benefits and their uses beneficial although there is no profit derived from them; if not, then the contention of the defendant corporation must be maintained that nothing but money-making schemes are beneficial. The world delights in scenic beauty, but must scenic beauty disappear because it has no appraised cash value? If this defendant corporation takes the water out of Cascade Canyon, it can take the water out of the Seven Falls and Cheyenne Canyon, and Glen Eyrie, and the beautiful parks, and homes and summer resorts of the State. We feel compelled to say that there are beneficial uses of the fall of water than the mere production of commodities in competition with others now existing. When the defendant company says the complainants are putting the fall of the water to no beneficial use, it means that the complainants are not ruining the beautiful scenery for cash.

Mr. BROWN. Did you bear in mind when you cited the Colorado decision that in Colorado there is no law of riparian rights? There

are no riparian rights in Colorado; but there is in New York and every State east of the Mississippi.

Mr. WATROUS. Those are matters which the States regulate for themselves.

Mr. BROWN. You are right. Each State regulates for itself, and that is why in Colorado there is no riparian-rights law and in New York there is.

Mr. WATROUS. Colorado changed the situation at one time——

Mr. BROWN. Colorado did not change it. The law of appropriation grew up from the custom which prevailed upon the lands before ever the State was organized. That custom evolved into a law, and that local law was against riparian rights and in favor of appropriation, and as such local law is recognized by the Federal courts. This case you cite is purely one as to rights by prior appropriation. It has nothing to do with riparian rights.

(Thereupon at 5.30 o'clock p. m. the committee adjourned until tomorrow at 2 o'clock p. m.)

COMMITTEE ON FOREIGN AFFAIRS,
HOUSE OF REPRESENTATIVES,

January 20, 1912.

The committee met at 2 o'clock p. m. Hon. William Sulzer (chairman) presiding.

The CHAIRMAN. The committee will be in order.

**STATEMENT OF MR. J. WINTHROP SPENCER IN THE MATTER OF
THE PRESERVATION OF NIAGARA FALLS.**

The CHAIRMAN. Mr. Spencer desires to be heard. You may proceed, Mr. Spencer.

Mr. SPENCER. I represent those people who are anxious to know the facts and their direct measurements in favor of the preservation of Niagara Falls. I speak from personal observation on account of having made the investigations myself. In order to save time, I would ask permission of the chairman to read this paper, and as there are a number of figures in this it will be less difficult for the reporter if I hand a copy to the chairman, together with several photographs which have been taken of the Falls.

The rate of the recession of the Falls, obtained from measurements made by Prof. James Hall in 1842, and my own in 1905, was found to average 4.2 feet per annum for the whole width of the gorge. Mine was the fifth survey. While this figure is the mean rate, there are years of no appreciable retreat, during which the soft underlying rocks are being eaten away; subsequently the hard upper rocks collapse. In 1678 Hennepin showed a cross fall the position of which we have been able to locate. Thus we know the approximate rate for 227 years at an average of 4 feet per annum.

I succeeded in making soundings under the Falls themselves. The depth to the fallen blocks is 72 feet. Here the lower beds are all soft. The rapids above the Falls descend 55 feet. On account of the thickening of the upper hard rocks and the downward slope of the lower rocks the rate of recession is diminishing to an average of 2½ feet per year.

You have been told by many gentlemen that the diversion has produced no effect upon the Falls. I have no doubt that they have been honest in their belief, particularly as temporary conditions favored such. A man usually does not see himself growing old until suddenly awakened to the fact, but these gentlemen offer no grounds for their beliefs, nor were they likely to be in a position to give reliable opinions.

The reason for these statements is based upon the fact that between 1903 and 1910 high water prevailed, thus more or less obscuring the effect of diversion. Thus during the five years, 1906-1910, there was a discharge of more than 200,000 gross horsepower per second than during the 15 preceding years. The mean stage of water during 1911 was low and the discharge fell to more than 264,000 gross horsepower below the average between 1891 and 1905, or if we take the average of the month of January, 1911, the diminution was more than 500,000 gross horsepower. Every foot of water from above the upper rapids represents 24 gross horsepower. It is a question, then, how much of this can be used or wasted.

Another fundamental point has not been shown to you. According to the Bruckner law, the cycle of wet and dry years is about 36 years. Niagara appears to have two subcycles. A period of low water ended in 1835; high water prevailed until 1845; low water until 1856; high water until 1864; low water until 1875; high water until 1887; low water until 1902, inclusive; since then high water until 1911. During these periods there has been an occasional abnormal year. Nineteen hundred and eleven may have been such, perhaps due to excessive evaporation, as prevailing low water does not seem to be due for some two years more. But 1911 may be the beginning of a low-water period; then the fallacy of the claim of no effect upon the Falls will be seen. The mean discharge of the river from 1906 to 1910 was 211,000 feet per second; the mean discharge for the 15 preceding years was 204,000 feet per second, and for weeks together it may fall as low as 160,000 feet per second.

The Horseshoe Falls was formerly 2,900 feet in length. On account of the lowering of the water, the Canadians have cut off 415 feet from that end by the construction of the retaining wall. The Chief of Engineers told you that for the lowering by 4 inches on the New York side the equivalent amount on the Canadian side is 9 inches, but many people have forgotten this.

With the full use of the water, as under the treaty, the level will be lowered on the Goat Island side by more than 10 inches, and on the Canadian 23 inches. This includes the diversion by the Chicago Canal. The depth of water for 800 feet adjacent to Goat Island, excepting fissures, varies from less than 6 inches to a foot at the mean stage of the 15 years mentioned. I have often seen it so low that you could walk out on the New York side with perfect safety. With such diversion, as is in sight, the International Boundary Line would be out of water and the remaining portion of the Horseshoe Falls would be entirely within the Canadian domain. Plate 23 of the Engineer's Report shows you how low the water is. For three or four months during 1911 the water was as low, or lower than shown in this plate.

This picture [showing first picture] was taken in 1900. Where these Falls in the picture formerly existed it is now simply black

rock. Plate II of the Engineer's Report [showing photograph] will show you this. As I stated before, on several occasions I could with perfect safety walk out along here [indicating] on the west of the Falls.

Mr. CLINE. How deep is the water that flows over the Falls at that point now?

Mr. SPENCER. It varies from a foot to 6 inches and the maximum depth of the water at the crest of the upper rapids is not over 9 feet at any one point, and the major portion of that would be less than 7 feet, and where the Falls are deepest, I mean on the crest of the line, which is the Canadian side, I do not think any part is over 8 or 9 feet. As I say on the crest of the rapids above the Falls the water does not reach 9 feet at any one point. On the American Falls the mean depth is only about 3 feet at the upper rapids. At the crest of the Falls it is much less.

Mr. CLINE. Well, now, will that be seriously affected if they take all the water that is supposed to be taken under the treaty, in your opinion?

Mr. SPENCER. It will, as will be shown in this paper.

The question before you is how much the diversion of 4,400 cubic feet per second will affect the Falls. Again if you will look at plate 22 of the Engineer's Report, and compare figures 1 and 2, you will see the difference between the effect of 200,000 and 196,000 feet, that is the withdrawal of 4,000 feet. During three months of last winter not merely was the discharge reduced by this 4,000 feet but to double this amount. Now, this is a question that effects 800 feet on the New York side of the great cataract. The American Falls is not effected to such a great degree, but half of those Falls next to Goat Island have only a few inches of water and I have been over more than half of the Falls when partially drained.

I will say here that after four months, three of these continuous months, in the winter and that is November, the condition was even worse than is shown here, that is not for one day but the mean for those months. If you will again look at this portion of the Engineer's Report it throws much light upon the subject [exhibiting photograph of the Falls]. This photograph was taken when there was a discharge of 196,000 feet per second [exhibiting another photograph]. This photograph was taken when there was a discharge of 200,000 cubic feet per second. The difference is 4,000 cubic feet per second. Now, during 1911 there was 196,000 feet, I mean for the whole year, remember, the discharge was equal only to 192,000 feet per second. Consequently the difference is twice what this figure is up here, that is to say—I will repeat—the mean height of the water in 1906 was 4,000 feet below what this picture shows [indicating]. This picture [indicating] shows 4,000 feet below what this picture shows [indicating].

Now, the American Falls is not affected to the same extent as this New York end of the Horseshoe, but the southern half; that is, the half next to Goat Island, is only 6 feet 10 inches deep, so that the southern end of the American Falls is only a little better off than—this portion of the Horseshoe is better off because the water is coming more from the Horseshoe than it is from the American channel.

Now, with regard to the subject of the lower rapids.

The subject of the lower rapids has been mentioned. One of them has a height of 51 feet. They are part of the falls of Niagara and are visited by just as many people. In magnificence neither these nor the rapids above the Falls are inferior to the falling sheet of water. You can not cut off an arm and a leg of a man and leave him intact. But here is another point, if you divert the water from the pool below the Falls you lower its level, which increases the rate of recession of the main Falls themselves. The question of the international relationship of this water I shall not discuss.

The mean level of Lake Erie during the whole of 1911 was 74 inches below the level of the preceding 20 years. A part of this at least was due to the diversion of the waters. Three of the companies take their water from the basin above the rapids, and in doing so increase the size of the outlets of this basin. For the large ships each inch of cargo, I am told, represents \$100 in freight.

Gentlemen, I am not hostile to the power companies asking for more water. Let me say that had it not been for the persistent refusal of the Ontario government I believe that the quantity allowed on that side, under the treaty would have been greatly curtailed, and as you know two of the power companies there belong to Americans, who through the Ontario government have obtained greater privileges than those located in New York. While not hostile to these companies nor to the Buffalo Drainage Canal, which could obtain nearly 36 gross horsepower per foot, yet I think that the people have a right to a presentation of their side of the question, and I have offered you facts which you may take in consideration with the subject. If I may be allowed to cite a British anecdote. The Earl of Kimberley was secretary for the colonies. He took the draft of the treaty, after the first Boer War, to Queen Victoria. She said, "May I ask you to reconsider, for this will be a fatal mistake." He returned; again she pleaded for another reconsideration. He replied, "It is settled. It is the will of the people." She replied, "Then I shall sign. But you will live to see the day when Britain will regret it." Kimberley said, "We have learned to regret it. Her Majesty was right."

Now, gentlemen, let me say that under the full diversion of water as granted by the treaty, the main cataract will have been reduced to one-half of its breadth, as also one-half of the American Falls. The treaty permits a diversion of 28 per cent for mean discharge, or 33 per cent, including the Chicago canal. This rises to 40 per cent during months of low water. The extreme disturbance on account of wind lasts for only a few hours or a day and may be rejected from consideration. However, for a week in February, 1909, during low water the flow of the water was suspended from the American Falls and 800 feet of the main cataract, next to Goat Island, a forerunner of future conditions. Gentlemen, it is for you to consider the facts as related to the whole people on the one hand, and on the other whether it is the advantage to turn Niagara into aluminum carbide, etc., for the other general manufacturing uses do not consume an inordinate demand for power. The Aluminum Co., according to the report, was for years working on a capital of \$3,200,000. Two or three years ago they were able to pay a stock bonus of 500 per cent, thus bringing the capital up to \$16,-

000,000. It does not appear that the American people received any bonus for their water.

Mr. KENDALL. How is that last statement true?

Mr. SPENCER. Under the treaty.

Mr. KENDALL. I heard that, but what did you say about 40 per cent?

Mr. SPENCER. When the water is at a low stage, I mean.

Mr. KENDALL. The full discharge of the Falls will be 40 per cent?

Mr. SPENCER. At the low stage of the water, lasting for a month or more, and as any variation as to that lasts only for a few hours it is not worth considering one way or the other. It might be enough to stop the works for a few hours.

I can show you a photograph of this which you can pass around showing the stability of the flow [passing photographs around the committee room].

Mr. KENDALL. But that is a photograph illustrating the situation there during that week in February, is it?

Mr. SPENCER. Yes; that is prophetic of what is going to happen with a full outturn of the power.

Mr. KENDALL. Well, it is descriptive of what has happened under those conditions.

Mr. SPENCER. It has happened under those conditions. It has been diminished on two other occasions, but never a stoppage of the water on the American Falls occurred until February. Subsequent to that, the year after, the American Falls were broken up into four parts, but I did not get photographs of that. These photographs were my own. That is a determination of the water on our New York side of the Horseshoe [illustrating]. This also shows the retaining wall by which 415 feet are permanently diverted.

Mr. COOPER. Do you mean that 400 feet out from the Canadian side there was a wall erected which prevents the water from flowing?

Mr. SPENCER. Absolutely, for 415 feet, and the wall is shown in that picture. Now, I will not presume to suggest anything. I simply brought these facts to you for your consideration.

Mr. FOSTER. Will it interrupt you if I ask you the purpose of this retaining wall?

Mr. SPENCER. I will state, as you were told by the Chief of Engineers, that the greatest effect was on the Canadian side; where it is 6 inches on the Goat Island side it is 9 inches on the Canadian side. When the first power plants were established they drew the greatest portion of their water not from the New York channel—that is, the Horseshoe channel—but drew the greater part of the Canadian channel, the result was the water flowing back, and before they began their work, about 1901—I can not give you the exact date—they built this retaining wall and filled in with earth behind it, and it runs along 415 feet at the end of the Falls, so no matter what the condition of the rainfall is that has been destroyed to that extent.

Mr. FOSTER. By the Canadian Government?

Mr. SPENCER. If you draw me into the question of the Canadian Government—it was done for a simple purpose. Prior to that the water was usually drawn off from the Canadian side. This wall was built to block the water, and to send it back to the power house.

Mr. BROWN. That was done as a part of the park system—to enable spectators on the Canadian side a better view of the Falls?

Mr. SPENCER. Not at all. I was at Niagara Falls practically all the time this was being constructed, and when it was thrown open. Now to come to the question——

Mr. KENDALL. Before you leave that question—the effect of establishing that retaining wall was to destroy 415 feet of the Falls, was it?

Mr. SPENCER. Four hundred and fifteen feet of the main Horseshoe Falls on the Canadian end of the Horseshoe.

Mr. KENDALL. But there had been a flow of 415 feet of water over that until that time?

Mr. SPENCER. Yes; prior to that time. It took about one and a half years before it was completed.

Mr. KENDALL. That was diversion of the water that had previously gone over that wall toward the center of the wall?

Mr. SPENCER. Yes; high water has been lowered by the diversion of that water, and it got to be very shoaly.

Now, it is a question whether it is pleasing to destroy the Falls or to exploit the carbide works and those other great consumers of power, the aluminum company; and I will mention here, perhaps some you do not know, according to their report they have been working with a capital of only \$200,000, but three years ago they were able to pay a stock bonus of 500 per cent, but the American people did not get any part of that bonus.

The Canadians now charge rental for that water; the American people receive none, nor do they receive duty. In an editorial of the organ of the Ontario government, January 18, it was stated that early in 1911 the margin of possible exports has a long way to go before being exhausted, and that the removal of restrictions would seem to be somewhat superfluous. It is stated that the consumption in Ontario is comparatively limited, and that the Canadian Government can impose an export duty.

Mr. KENDALL. Now, that means, I take it, that there is plenty of water there that may be exported if it is not utilized there.

Mr. SPENCER. There is plenty of water available under the present agreement, and it would be superfluous to give permission to pass any more. I should have brought that clipping I received only a few minutes before I came here, but I forgot to bring it down. Now, of course, the Canadian Government has the power to apply an export duty, as the statement mentions.

Mr. BROWN. May I ask you this question: The Canadian power companies have to reserve one-half of their power for sale on the Canadian Government?

Mr. SPENCER. Yes.

Mr. BROWN. And they can only export the other half of each company, not to the aggregate sums of all the companies, so that if the Canadian Power Co. is given the privilege to export one-half of its power and the Ontario Co. one-half of its power then there could be no export unless there was some other company ready to develop two for every one that was exported.

Mr. SPENCER. These two companies could increase their power of production, and by that means they could export more.

I wish to say one word in regard to the work of the International water-making machine. I have had something to do with that. It was originated by the late Andrew H. Green, of New York. That

was for the special purpose of saving the Falls from spoliation. I had the honor on several occasions to assist the late Secretary Hay and also the late Senator Platt, so that I am thoroughly informed with regard to the methods of that International water-making machine.

Gentlemen, I thank you for your attention.

Mr. KENDALL. Do you represent some civic association?

Mr. SPENCER. I am a member of a civic association. If you wish to know how I got in connection with this I will give it to you in a few minutes.

Mr. KENDALL. The only purpose I had was to ascertain the reason for your being here this afternoon, which is a very proper one altogether.

Mr. SPENCER. The reason is this: I began as a young man to study the situation at Niagara Falls; later I began to publish for the Niagara Falls Park Commission. I published a lengthy report. I began in 1902, or about that, my association with Mr. Greene, and on account of this previous association and the fact that I was connected with the work and other matters relating to Niagara Falls it was thought but right that I should have an opportunity to carry on scientific investigations. Although an American citizen, I was asked by the geological survey of Canada to make a full report upon the Falls. I did not have the facilities that the engineers had in some directions. I had more facilities in some other directions. The result of that was I published a work of 500 pages on the scientific history of the Falls, a part of which is included in the statistics which I have been giving you. I have kept up with the information which has been supplied by the engineers department, until the present time, consequently I am familiar—there may be some details I do not know—but I am familiar with almost everything of a scientific nature concerning the Falls of Niagara.

Mr. KENDALL. I am glad you made this subsequent statement. I think it is valuable.

The CHAIRMAN. Mr. Spencer, will you put into the record your statement with regard to the recession of the Falls by reason of the erosion?

Mr. SPENCER. I shall be very glad to do so, and I therefore hand you a copy of my paper on that subject, which, together with what I have previously stated, covers the whole question.

[Bulletin of the Geological Society of America, Vol. 21, p. 447-448, pl. 32-34, Aug. 10, 1910.]

INTERRUPTION IN THE FLOW OF THE FALLS OF NIAGARA IN FEBRUARY, 1909.

(By J. W. SPENCER. Read before the society Dec. 29, 1909.)

PREVIOUS FLUCTUATIONS.

Since the year 1890, the mean level of Lake Erie has fallen about 1 foot¹ and the basin above Goat Island about a foot and a half. From that year until the end of 1905, the mean annual fluctuations varied scarcely more than 1 foot, while in one case the mean monthly variation reached nearly 2 feet; but during the progress of storms, when the wind has changed to the opposite direction, the fluctuations have been found to reach 5 or even 6 feet.

¹ J. W. Spencer: Evolution of the Falls of Niagara. Geological Survey of Canada, p. 180.

FLUCTUATIONS OF 1900.

During January and the early part of February, 1900, the lake level was below that of the mean, but on February 10 Lake Erie rose nearly 3 feet above the mean annual average height (1869-1906, inclusive), while in the following and succeeding days it fell with a northerly wind to 4 feet below the mean (as shown by the records of the gauges as furnished the United States Lake Survey). This was on February 14. At this time the weather was very cold. On account of the reduced depth of the water on the upper rapids, as the ice was forming, it remained anchored to the projecting rocks and was not carried over the falls; so that the New York channel and the main channel to about 600 feet outside of Goat Island were frozen over, except one small lead, which scarcely showed any current where ordinarily it is a rushing torrent. It must be emphasized that the ice was not an accumulation of blocks carried down from Lake Erie, as often occurs, like in the jam of the following April. As the blizzard continued, with its falling snow, the lake level fell to the lowest on February 14, and almost all of the water beneath the ice was withdrawn so that the American Falls of 1,000 feet in breadth were drained, except four or five insignificant streamlets, as shown in plate 32. The eastern side of the main falls, adjacent to Goat Island, was drained for 800 feet, as may be seen in plate 33, figure 1. The end of the ice-covered rock rim of the first cascade of the upper rapids, with the frozen river in front of Goat Island, is shown in plate 34, figure 1. On the Canadian side, the main falls, which have already been curtailed by 415 feet, due to power diversion, was further drained by about 200 feet, as illustrated in plate 33, figure 2. Another photograph, not reproduced, shows that in the middle of the main cataract the rocks almost reached the surface; but without allowing for these thinly covered masses, the total shrinkage of the main falls amounted to a reduction of the crest line from 2,950 feet (in 1901) to 1,600, and the diameter was shortened from 1,200 feet to less than 800.

From the foregoing it may be understood that the cause of Niagara "running dry," as expressed by the newspapers, was due to the recent lowering of the river level (partly owing to power diversion), thus permitting the formation of the ice barriers, which cut off the reduced supply of water during a strong northerly wind, in very cold weather, at a time of the low stages of Lake Erie. This condition continued for nearly a week. Had there been no ice, the extreme effect of the wind would have lasted for only a day, even if the volume of water had been below the normal amount. The Whirlpool Rapids were lowered by many feet, so that the usual rushing, boiling, pitching, torrents seemed tamed, as may be seen in plate 34, figure 2.

SIMILAR OCCURRENCES.

Within the historic record the only other times when similar phenomena have been seen were the following: On March 29, 1848, the ice from Lake Erie blocked the river for one day, as described by the Hon. Peter A. Porter; on March 22, 1893, a partial stoppage occurred which also appeared to have been due to the blockade of lake ice; and on February 29, 1896, there was another shrinkage of the falls. None of these cases were comparable to that of 1900, when the phenomena lasted for nearly a week from February 14. With the continued draining of the falls, a repetition of these features should be expected. In part, they represent what will become a permanent condition, owing to power diversion. The above is from my personal observations, and the photographs are of my taking or those of Mr. E. Deming Smith, of Niagara Falls, who accompanied me.

NOTE.—In March, 1910, owing to the shoaling of the waters on the upper rapids, the ice was caught and so barricaded the New York channel that the American Falls were again damaged, being broken into four parts.

Mr. COOPER. Do you intend to have these photographs put in his statement?

The CHAIRMAN. No; they will not be printed, but you might leave those photographs here, Mr. Spencer.

Mr. SPENCER. They are in the report of the Engineers.



GOAT ISLAND END OF MAIN OR CANADIAN FALLS.
Drained February 16, 1900 (Spencer).



WESTERN END OF MAIN FALLS.
Already curtailed by length of wall. Further drained February 16, 1900 (Spencer).





END OF ICE-COVERED AND DRAINED RIM OF FIRST CASCADE OF UPPER RAPIDS
ABOVE THE "SISTER ISLANDS," FEBRUARY 17, 1909 (SMITH).



WHIRLPOOL RAPIDS AT VERY LOW WATER, FEBRUARY 17, 1909 (LOOKING
DOWNWARD) (SMITH).

nd



AMERICAN FALLS, 1,000 FEET LONG, FROZEN AND DRAINED FEBRUARY 17, 1909 (SPENCER)



I laid on the table the other day a copy of this pamphlet, and if you will look at it at this place in here you will see the lines marked showing what has been cut off and the future effect on the Falls.

REFERENDUM LEAGUE OF ERIE COUNTY,
Buffalo, N. Y., January 19, 1912.

To the Hon. WM. SULZER,
Chairman of the Committee on Foreign Affairs,
House of Representatives, Washington, D. C.

DEAR SIR: The city of Buffalo in November, 1905, voted to establish a municipal electric-lighting and power plant for the benefit of the city and its inhabitants.

In order to get the electric current for its municipal distributing plant at a reasonable price, Buffalo must get electrical power from Niagara Falls by and through a State generating and transmission plant.

Any further grant by the United States Government of the unused 4,400 cubic feet of water per second, which, under the present treaty, is permitted to be diverted on the American side of Niagara Falls, should be granted by the General Government to the State of New York.

Electricity can be produced at Niagara Falls using the public waters at a cost not to exceed \$6 for horsepower per year, and is actually sold to the Ontario Government for less than \$10 per horsepower per year.

Power produced at the Falls and transmitted to a much greater distance from the Falls than Buffalo is sold for less than the prices charged for like amounts of power in Buffalo.

The distributing company in Buffalo charges the small consumer at the rate of \$600 per horsepower per annum, as against the \$6 per horsepower, cost of production at the Falls.

The several companies which produce, transmit, and distribute electricity either have a community of interest or unite in a policy adverse to the small consumer.

The Niagara Falls Power Co. sells 450,000,000 kilowatts per annum for one and a quarter millions of dollars.

The Cataract Power & Conduit Co. sells one-third of this amount for \$1,000,000.

And the Buffalo General Electric Co. sells one-twentieth of the first amount for \$1,000,000.

The city of Buffalo can be lighted and heated at night, both publicly and privately, by less than 200,000 horsepower. The scenic beauty of Niagara Falls need not be considered at night, and 1,000,000 horsepower could be generated on the American side alone, at night. It is suggested that sufficient horsepower for heat and power uses in Buffalo can be generated and transmitted at night and stored by modern methods for day use in Buffalo.

This organization, composed of over 5,000 citizens of Buffalo, and speaking for the small consumer of Buffalo, to whom light and heat at reasonable prices are necessities, respectfully asks that action be taken to modify the existing treaty so that the full amount of water at Niagara Falls can be used at night; that the same be granted by the General Government to the State on condition that it be used for a State generating and transmitting plant, or controlled by the State in the interest of the general public or the small consumer. It is suggested that even if the State of New York will not establish a State hydro-electric, generation, and transmission plant that all future grants of power be made by the United States Government to the State of New York alone, upon the express condition that prices shall not be charged by the producing companies greater than prices now charged to the Government of Ontario, and that prices charged by transmission and distributing companies shall be fair and reasonable to the small consumer, based on the actual cost of the power to these companies and the actual cost of transmission and distribution, with a fair profit added thereto.

All of which is respectfully submitted.

REFERENDUM LEAGUE OF ERIE COUNTY,
LEWIS STOCKTON, *President*.
FRANK C. PERKINS,
Consulting Engineer.

The following table was prepared by an American firm of manufacturers on making investigations for a Canadian location.

Estimate is based on smallest business possible. Gas is the largest saving in Welland's favor, as our business requires much heat for forging; but for large users of power, that would be the greater factor. As your business increases, so, proportionately, do the advantages of Welland.

Comparative statement on stated quantities.

Localities.	Cost of 100 horsepower per year.	Natural gas, or equivalent (15,000 feet per day).	Site cost.	Freight rate, steel, Pittsburgh (20 cars).	Soft coal (50 tons).	Hard coal (50 tons).	Taxes (10 years).
		<i>Cents.</i>		<i>Cents.</i>	<i>Per ton.</i>	<i>Per ton.</i>	
Welland.....	¹ \$15.00	12	(²)	15	\$2.50	\$4.50	³ \$5,000
Niagara Falls.....	¹ 15.00	15	(²)	16 ⁴	2.60	4.60	(²)
Hamilton.....	¹ 22.50	20	\$7,500	16 ⁴	3.00	5.15	⁵ 100
Brantford.....	¹ 22.50	20	7,000	17 ⁴	3.35	5.20	(²)
Guelph.....	{ ⁶ 1,000.00 ¹ 30.00 }	25	(²)	19	3.50	5.50	(²)
Toronto.....	¹ 25.00	⁷ 30	10,000	19	3.35	6.00	250

Localities.	Water (5,000 gallons per day).	Switching charges (40 cars).	Number of railways.	Figures based upon these quantities per year.		Capital at 5 per cent.
	<i>Cents.</i>			Cost of running per year.	Extra capital required.	
Welland.....	6		7	\$2,800		\$55,000
Niagara Falls.....	10	⁴ \$2.00	6	2,965		66,000
Hamilton.....	7 ¹	2.00	3	4,410	\$7,500	90,000
Brantford.....	7 ¹	2.50	2	4,415	7,000	90,000
Guelph.....	20	2.50	2	5,950	12,500	120,000
Toronto.....	6	2.50	6	4,450	12,500	90,000

¹ Electricity. ² Free. ³ Fixed. ⁴ Car. ⁵ Year. ⁶ Steam plant. ⁷ Oil plant.

N. B. Toronto three times as far from Niagara Falls as Buffalo.

Mr. SPENCER. With regard to the total use of water, the Cataract Co. of Ontario, deriving its power from the Welland Canal, has an immense storage basin. From the reports of the lawsuit, it appears that the difference between an average consumption of water and that during the Peak Load may vary from 150 to 500 per cent.

From all of these considerations, so far as general manufacturing, lighting, and electric railway purposes are concerned, there is no reasonable prospect of the Canadian limit being reached in the near future. If, on the other hand, the great aluminum, carbide, and similar works are to consume the Falls of Niagara, what will there be left for general manufacturing purposes, employing vast bodies of labor, and for domestic purposes?

Gentlemen, I thank you for your attention. I can not begin to cover the scientific problems here, they are very complicated. But I am in a position to give you facts, because I myself have made many of the surveys and investigations of the Falls, covering years of work in the field, with the knowledge of what the engineers have measured, so that my work is not even an office compilation, and any further information that you desire from me will cheerfully be placed at your disposal, but I wish it to be remembered that I am not in hos-

tility to the vested rights of anyone, but some of the vested rights belong to the people.

The CHAIRMAN. Are there any other gentlemen present who desire to be heard this afternoon?

Mr. BROWN. One question Mr. Spencer knows about I might ask him.

The CHAIRMAN. Yes.

Mr. BROWN. Mr. Spencer, is it not true, or do you understand it to be true, that the unwatering of the Canadian end of the crest from the Horseshoe Falls prior to the time any diversions for power were made upon the Canadian side, had progressed so far that in 1902 the Canadian Park Commissioners caused 250 feet of the former crest, lying at that time unwatered, to be filled in for the purpose of improving the scenic effect of that part of the park?

Mr. SPENCER. I will say that the diversion of the water by the New York companies had affected the water on the Canadian side—that is, two New York companies had so diverted, deflected the water from the Canadian side that the water had receded and they were compelled to fill that in. But before that the earlier photographs show it, and this diversion was done on account of the continued increase of the lowering of the water on the Canadian side.

Mr. BROWN. Just a moment. Before 1902 there had been no substantial diversions upon the Canadian side?

Mr. SPENCER. The lower end of the water at that time had risen from the diversion by the New York power companies.

Mr. BROWN. But prior to 1902—I am speaking as to back in those times—the erosion from the Falls causing a recession of the crest of the Falls?

Mr. SPENCER. It was the diversion of the water. A great deal of the water on the upper rapids is now very thin. I have seen the time when during extremely low water one-fourth of the upper rapids have been bare.

Mr. BROWN. I was trying to compare your statement with this one made in the Canadian reports of the American engineers. That is all.

The CHAIRMAN. Is there a gentleman present who desires to be heard now in this matter?

Mr. DIFENDERFER. I suggest, Mr. Chairman, that you call Mr. Barton, if he is here.

Mr. BROWN. Let me say, Mr. Chairman, Mr. Barton went back to Niagara Falls last night. If you would like to hear from him I will ask him to come here and appear before your committee Tuesday.

Mr. DIFENDERFER. He is manager for the Hydraulic Co., is he not?

Mr. BROWN. Yes; for the Niagara Falls Co. Mr. Barton can give you any information you desire.

Mr. DIFENDERFER. I would like to question Mr. Barton on some points I have in view, but I hardly think I will request his coming here.

Mr. BROWN. Without any request, upon the statement of the committeeman, I will see that he is here. I am only too anxious to give them any figures.

The CHAIRMAN. We will now be pleased to hear from Maj. William B. Ladue, Corps of Engineers, War Department, Washington, D. C.

Maj. LADUE. There are only one or two matters that I wish to say anything about. The whole subject has been pretty thoroughly covered. In the first place let me say, as was said the other day, that the War Department is not in the attitude of urging that it be given charge of the supervision of these permits; but, if the War Department *is* to supervise the permits it will have to have an appropriation for that purpose. The Burton Act made an appropriation of \$50,000 for the necessary expenses for carrying out its provisions. When the Burton Act expires, without further renewal, of course we will not have any money available; and for any further operations which we may be called upon to undertake we will need money.

Mr. GARNER. You had better tell us, Major, how much you will need to provide any supervision that the War Department desires to undertake.

Maj. LADUE. I am not prepared at present to give definite figures; but I would suggest that the unexpended balance of the appropriation made by the Burton Act be reappropriated and made available for expenditure, in connection with any legislation which this committee may have in view.

The CHAIRMAN. How much is that unexpended balance?

Maj. LADUE. About \$22,290, as it stands now. In connection with the operations under the Burton Act the Secretary of War caused numerous investigations to be made and held a number of hearings in regard to the issuance of these permits. There is in these reports a good deal of matter which is of value, and which I think will be of value to the committee, which may possibly not be before the committee; and I would propose to leave here, for the information of the committee, copies of these various reports, including the decision rendered by the Secretary of War in 1907, fixing the conditions and limits of the original permits. I will simply lay this on the table.

The CHAIRMAN. Have you got that decision, Major?

Maj. LADUE. Yes.

The CHAIRMAN. Well, I think we had better put the decision in the record. We will put it in the record if there is no objection.

Maj. LADUE. I will put a copy in the record.

The CHAIRMAN. Now, if there is anything that you have that is not too voluminous that you think ought to go in the record, Major, we would be glad to have you put it in the record as a part of your remarks.

Maj. LADUE. I will add this paper. The other papers I have here I will simply leave on the committee's table for their information. I will also present this set of blue prints showing the variations in the levels of the Great Lakes for a number of years. Gen. Bixby desired me to present to the committee this data as part of the information on the subject, which will be of value to anyone interested in that branch of the subject, in connection with the operations under the Burton Act.

Mr. COOPER. One moment. Would not this be very valuable, this literature, for the record?

The CHAIRMAN. Very well; put it in.

WAR DEPARTMENT,
Washington, January 18, 1907.

In the matter of applications under the Burton Act for the issue of permits to divert water for power from the Niagara Falls on the American side and to transmit electrical current, developed from water power on the Canadian side, into the United States.

OPINION BY THE SECRETARY OF WAR.

Ten or more applications have been filed in this department for the issuing of permits by the Secretary of War, part of them for the diversion of water for power from Niagara Falls on the American side, and the remainder for the transmission of electrical currents, developed from water diverted from the Falls on the Canadian side, into the United States. These applications are filed under what is known as the Burton Act, passed June 29, 1906, and entitled "An act for the control and regulation of the waters of the Niagara River, for the preservation of Niagara Falls, and for other purposes."

The first section of the act forbids the diversion of water from the Niagara River, or its tributaries in the State of New York, except with the consent of the Secretary of War, as authorized in section 2, with a proviso, the meaning of which is not here important.

The second, fourth, and fifth sections of the act I set out in full as follows:

"Sec. 2. That the Secretary of War is hereby authorized to grant permits for the diversion of water in the United States from said Niagara River or its tributaries for the creation of power to individuals, companies, or corporations which are now actually producing power from the waters of said river, or its tributaries, in the State of New York, or from the Erie Canal; also permits for the transmission of power from the Dominion of Canada into the United States, to companies legally authorized therefor, both for diversion and transmission, as hereinafter stated, but permits for diversion shall be issued only to the individuals, companies, or corporations as aforesaid, and only to the amount now actually in use or contracted to be used in factories the buildings for which are now in process of construction, not exceeding to any one individual, company or corporation as aforesaid, a maximum amount of eight thousand six hundred cubic feet per second, and not exceeding to all individuals, companies, or corporations as aforesaid an aggregate amount of fifteen thousand six hundred cubic feet per second; but no revocable permits shall be issued by the said Secretary under the provisions hereafter set forth for the diversion of additional amounts of water from the said river or its tributaries until the approximate amount for which permits may be issued as above, to wit, fifteen thousand six hundred cubic feet per second, shall for a period of not less than six months have been diverted from the waters of said river or its tributaries, in the State of New York: *Provided*, That the said Secretary, subject to the provisions of section five of this act, under the limitations relating to time above set forth is hereby authorized to grant revocable permits, from time to time, to such individuals, companies or corporations, or their assigns, for the diversion of additional amounts of water from the said river or its tributaries to such amount, if any, as in connection with the amount diverted on the Canadian side, shall not injure or interfere with the navigable capacity of said river, or its integrity and proper volume as a boundary stream, or the scenic grandeur of Niagara Falls; and that the quantity of electrical power which may by permits be allowed to be transmitted from the Dominion of Canada into the United States shall be one hundred and sixty thousand horsepower: *Provided further*, That the said Secretary, subject to the provisions of section five of this act, may issue revocable permits for the transmission of additional electrical power so generated in Canada, but in no event shall the amount included in such permits, together with the said one hundred and sixty thousand horsepower and the amount generated and used in Canada, exceed three hundred and fifty thousand horsepower: *Provided always*, That the provisions herein permitting diversions and fixing the aggregate horsepower herein permitted to be transmitted into the United States, as aforesaid, are intended as a limitation on the authority of the Secretary of War, and shall in no wise be construed as a direction to said Secretary to issue permits, and the Secretary of War shall make regulations preventing or limiting the diversion of water and the admission of electrical power as herein stated; and the permits for the transmission of electrical power issued by the Secretary of War may specify the persons,

companies, or corporations by whom the same shall be transmitted, and the persons, companies, or corporations to whom the same shall be delivered.

"Sec. 4. That the President of the United States is respectfully requested to open negotiations with the Government of Great Britain for the purpose of effectually providing, by suitable treaty with said Government, for such regulation and control of the waters of Niagara River and its tributaries as will preserve the scenic grandeur of Niagara Falls and of the rapids in said river.

"Sec. 5. That the provisions of this Act shall remain in force for three years from and after date of its passage, at the expiration of which time all permits granted hereunder by the Secretary of War shall terminate unless sooner revoked, and the Secretary of War is hereby authorized to revoke any or all permits granted by him by authority of this act, and nothing herein contained shall be held to confirm, establish, or confer any rights heretofore claimed or exercised in the diversion of water or the transmission of power."

The third section provides a punishment for violations of the act, and the method of enforcing it.

The plain purpose of the act is to restrict, as far as lies in the power of the Congress, the diversion of the water from the Niagara River above the Falls in such a way as to reduce the volume of the water going over the Falls, and the plan of Congress in so doing is to effect this purpose of directly prohibiting the diversion of water on the American side, and by taking away the motive for diverting water on the Canadian side, by denying a market for electrical power generated on the Canadian side in the United States. The prohibition in the act is not absolute, however. It is clear that Congress wished, so far as it could, to accomplish its purpose with as little sacrifice of the pecuniary interests of those who had actually made investments, on the faith of the continued unrestricted diversion of water on the American side, or the continued unrestricted transmission of electrical power from Canada into the United States, as was consistent with the preservation of the integrity and volume of the Niagara River passing over the Falls.

The International Waterways Commission, a body appointed under a statute of the United States to confer with a similar body appointed under a statute of Canada to make recommendations with reference to the control and government of the waters of the Great Lakes and the valley of the St. Lawrence, have looked into the question of the amount of water which could be withdrawn on the American and the Canadian side of the Niagara River without substantial injury to the cataract as one of the great natural beauties of the world, and after a most careful examination they have reported, recognizing fully the necessity of preserving intact the scenic grandeur of the Niagara Falls, that it would be wise to restrict diversion to 28,600 cubic feet a second on the American side of the Niagara River (this to include 10,000 cubic second feet for the Chicago Drainage Canal), and to restrict the diversion on the Canadian side to 36,000 cubic feet a second. This report was in answer to a resolution of Congress calling for an expression of opinion, and thereupon Congress provided that the Secretary of War should be permitted, but not required, to issue permits in the first instance for the diversion of 15,600 cubic feet on the American side of Niagara River and the Erie Canal to persons or corporations actually engaged in the diversion of water and its use for power on that side for six months, with leave to increase the same after six months shall have shown the effect of such diversion, if it will not affect the scenic grandeur of the Falls. Congress further provided in the act, with reference to the power generated on the Canadian side, that the Secretary of War should be authorized, but not required, to issue permits for the transmission of 160,000 horsepower from the Canadian side to the markets of the United States, and then provided that he might issue revocable permits for the transmission of a larger amount, provided that the total amount transmitted, together with that generated and used on the Canadian side, should not exceed 350,000 horsepower, or the equivalent of the diversion from the falls of about 28,000 cubic feet of water.

I have already said that the object of the act is to preserve Niagara Falls. It is curious, however, that this purpose as a limitation upon granting of permits by the Secretary of War is only specifically recited in reference to his granting of permits for diversions of additional amounts of water over 15,600 cubic feet on the American side, which are to be limited to "such amount, if any, as, in connection with the amount diverted from the Canadian side, shall not interfere with the navigable capacity of said river or its integrity and proper volume as a boundary stream or the scenic grandeur of Niagara Falls." This peculiarity in the act is significant of the tentative opinion of Congress

that 15,600 cubic feet of water might be diverted on the American side and 160,000 electrical horsepower might be transmitted from the Canadian side without substantial diminution of the scenic grandeur of the Falls. Undoubtedly Congress left it to the Secretary to reduce this total thus indicated in the matter of permits if he differed with this intimation of the congressional view. Acting, however, upon the same evidence which Congress had, and upon the additional statement made to me at the hearing by Dr. John M. Clark, State geologist of New York, who seems to have been one of those engaged from the beginning in the whole movement for the preservation of Niagara Falls, and who has given close scientific attention to the matter, I have reached the conclusion that with the diversion of 15,600 cubic feet on the American side, and the transmission of 160,000 horsepower from the Canadian side, the scenic grandeur of the Falls will not be affected substantially or perceptibly to the eye.

With respect to the American Falls, this is an increase of but 2,500 cubic feet a second of what is now being diverted, and has been diverted for many years, and has not affected the Falls as a scenic wonder.

With respect to the Canadian side, the water is drawn from the river in such a way as not to affect the American Falls at all, because the point from which it is drawn is considerably below the level of the water at the point where the waters separate above Goat Island, and the waterways commission and Dr. Clark agree that the taking of 13,000 cubic feet from the Canadian side will not in any way affect or reduce the water going over the American Falls. The water going over the Falls on the Canadian side of Goat Island is about five times the volume of that which goes over the American Falls, or, counting the total as 220,000 cubic feet a second, the volume of the Horseshoe Falls would be about 180,000 cubic feet. If the amount withdrawn on the Canadian side for Canadian use were 5,000 cubic feet a second, which it is not likely to be during the three years' life of these permits, the total to be withdrawn would not exceed 10 per cent of the volume of the stream, and considering the immense quantity which goes over the Horseshoe Falls the diminution would not be perceptible to the eye.

I have given full hearing to the American Civic Association and to others interested in the preservation of the Falls, but nothing has been brought forward that really has any evidential force to affect the soundness of these conclusions.

By my direction, Capt. Charles W. Kutz, of the Corps of Engineers, United States Army, made an investigation into the circumstances of each corporation applying for permits for diversion or transmission. The subjects upon which Capt. Kutz was ordered to report are described in my memorandum opinion of July 14, 1906, as follows:

"It is necessary that the Secretary of War should know, before final action is taken by him, in the matter of permits for transmission, the capital already invested in the Canadian companies; the degree of completion of the plant; the amount likely to be sold on the Canadian side of the current; the time when the plant shall be ready for operation; the amount now actually produced; the amount now actually transmitted to the United States; the amount invested not only in the production of the current but in the plant and machinery for its transmission, including the poles and wires, and all the details; and also the capital invested by the American companies who are to receive in the first instance the current thus produced; the form in which that capital is, and the contracts into which they have entered, both with the Canadian companies and with the companies or persons to whom they expect to sell the current; the dates of these contracts, and all the circumstances tending to show the extent of the injury that a refusal to grant the permits requested would cause to the investment of capital, together with the question of when the contracts were made upon the claims for the use of current are based, with a view to determining the good faith with which these contracts were entered into; and whether the threatened passage of law induced their making."

Capt. Kutz has made a report both with respect to the companies applying for permits on the American side and those applying for permits on the Canadian side, and I wish to express my great satisfaction at the thoroughness and spirit of judicial fairness with which Capt. Kutz and those who are associated with him have done their work.

Taking up first the applications for permits for diversion on the American side, there is no room for discussion or difference. The Niagara Falls Power Co. is now using about 8,600 cubic feet of water a second and producing

about 76,630 horsepower. There is some question as to the necessity of using some water for sluicing. This must be obtained from the 8,600 cubic feet permitted, and the use of the water for other purposes when sluicing is being done must be diminished. The Niagara Falls Hydraulic Power & Manufacturing Co. is now using 4,000 cubic second-feet, and has had under construction for a period long antedating the Burton Act a plant arranged to divert 2,500 cubic second-feet and furnish 36,000 horsepower to the Pittsburg Reduction & Mining Co. A permit will therefore issue to the Niagara Falls Hydraulic Power & Manufacturing Co. for the diversion of 6,500 cubic second-feet, and the same rule must obtain as to sluicing, as already stated.

As the object of the act is to preserve the scenic beauty of Niagara Falls, I conceive it to be within my power to impose conditions upon the granting of these permits, compliance with which will remedy the unsightly appearance that is given the American side of the canyon just below the Falls on the American side where the tunnel of the Niagara Falls Power Co. discharges and where the works of the hydraulic company are placed.

The representative of the American Civic Association has properly described the effect upon the sightseer of the view toward the side of the canyon to be that of looking into the back yard of a house negligently kept. For the purpose of aiding me in determining what ought to be done to remove this eyesore, including the appearance of the buildings at the top, I shall appoint a committee consisting of Charles F. McKim, Frank D. Millet, and F. L. Olmsted to advise me what changes at an expense not out of proportion to the extent of the investment can be made which will put the side of the canyon at this point from bottom to top in natural harmony with the Falls and the other surroundings, and will conceal as far as possible the raw commercial aspect that now offends the eye. This consideration has been kept in view in the construction of works on the Canadian side and in the buildings of the Niagara Falls Power Co. above the Falls. There is no reason why similar care should not be enforced here.

Water is being withdrawn from the Erie Canal at the lake level for water-power purposes, and applications have been made for permits authorizing this. Not more than 400 cubic feet is thus used in the original draught of water that is not returned to the canal in such a way as not to lower the level of the lake. The water is used over and over again. It seems to me that the permit might very well be granted to the first user. As the water is taken from the canal, which is State property, and the interest and jurisdiction of the Federal Government grow out of the indirect effect upon the level of the lake, the permit should recite that this does not confer any right upon a consumer of the water to take the water from the canal without authority and subject to the conditions imposed by the canal authorities, but that it is intended to operate, and its operation is limited to confer, so far as the Federal Government is concerned, and the Secretary of War is authorized, the right to take the water and to claim immunity from any prosecution or legal objection under the fifth section of the Burton Act. I shall refer the form of the permit with these directions to the International Waterways Commission to prepare it.

I come now to the question of the permits to be granted to the applicants for the right to transmit electrical current from plants generating it on the Canadian side from the Niagara River.

The applicants are four: The International Railway Co., which applies for a permit for 8,000 horsepower; the Niagara, Lockport & Ontario Co., speaking in its own interest and that of the Ontario Power Co., for 90,000 horsepower; the Electric Transmission Co., speaking for itself and the Electrical Development Co., for 62,500 horsepower; and the Niagara Falls Power Co., speaking for the Canadian Niagara Power Co., for 121,500 horsepower.

Capt. Kutz recommended that the International Railway Co. be not granted any permit, but that out of the 160,000 horsepower 2,500 be reserved in order that it might be granted to the International Railway Co. when that company shall have obtained permission from the commissioners of the Queen Victoria Niagara Park to transmit the current through the park. The question of the company's right is pending before the Dominion Government. Some years prior to 1901 this railway company, which owns all the railways in Buffalo and neighboring cities and towns, bought a Canadian electric railway running from Chippewa to Queenstown, together with a bridge just below the Falls, and one at Lewiston, so as to make a loop with the railways on the American side. For this Canadian railway the applicant paid \$1,333,000.

It had a small power plant located in the Queen Victoria Park, and under its charter it could only use power generated therefrom to run the Canadian railway. In 1901 this charter was amended so as to permit the use of electricity for its railroads on both sides, and the plant has been developed by the expenditure of \$265,000, so that now it can generate 3,600 horsepower. The effective head is 68 feet, so that it takes about twice as much water to develop this power per horsepower as in the great plants I shall hereafter describe. It is quite clear that the original investment in the purchase of the railway was not made to secure the transmission of electric power across the boundary, because there was no power to do so under the charter. The subsequent investment of \$265,000 can perhaps be said to have been made with this in view. Capt. Kutz recommended that 2,500 horsepower be reserved for this company. The commissioners of Queen Victoria Park refused to approve the plans of this company for a transmitting line to the boundary, so that it can not now use the electricity except on the Canadian line, where it uses 1,200 horsepower. It generates now 3,600 horsepower. The permit of 2,500 horsepower would effect a saving of \$30,000 a year. The investment for transmission to the United States does not exceed \$265,000. All that can be reasonably expected from the outlay under the circumstances is not to exceed 7 per cent on the remainder, or about \$18,000. The permit should not, therefore, issue for more than three-fifths of 2,500 horsepower, or 1,500 horsepower. The fact that it may generate 8,000 horsepower by the expenditure of \$150,000 I do not regard as important, and I carry out the purpose of Congress in taking away any motive for making such an investment. The amount of 1,500 horsepower will be reserved to await the decision of the Dominion Government in the controversy between the International Railway Co. and the commissioners of Queen Victoria Park. This leaves out of the 160,000 horsepower 158,500 horsepower to be distributed to the other three companies. Let us consider their financial status and prospects.

The Ontario Power Co. was incorporated in 1887, and there was no limitation in its charter upon the amount of power which it might generate. Its plans, however, were subject to the approval of the commissioners of Queen Victoria Park, and plans for its works have been approved for 180,000 horsepower. The head works for this amount have been constructed and located above the first line of rapids. It was necessary under the plans to construct three conduits through the park. Only one of these conduits has been constructed, and it has a capacity to supply six generating units, three for 10,000 horsepower each and three for 12,000 each, or 66,000 horsepower in all. The cost to complete the six units and thus produce 66,000 is \$6,500,000. The amount required to complete the plant to the projected size, producing 180,000 horsepower, would be \$6,500,000 additional; and the amount required to produce 120,000 horsepower would be about \$3,200,000. In addition to this, the Ontario Transmission Company, an ancillary company to the main power company, has expended about \$1,000,000 in transmission, right of way and plant, and the power company has entered into contracts for the furnishing of 6,000 horsepower, with an option by the purchasers to increase this to 13,000 for Canadian consumption. The Niagara, Lockport & Ontario Co. of New York is affiliated with the Ontario Power Co., and has constructed a very elaborate transmission plant from the international boundary to Lockport, from Lockport to Buffalo, and from Lockport by way of Rochester to Syracuse. It has expended \$2,785,000, of which \$1,200,000 was for right of way and \$1,162,000 for construction. Its capacity for transmission from the international boundary to Lockport is 60,000 horsepower, and there is the same capacity from Lockport to Buffalo; from Lockport to Syracuse it has a capacity of 10,000 horsepower, and a second line of greater capacity is under construction. It claims that its investment will amount, when its transmission lines are completed, to upward of \$4,000,000, and certainly the expenditure will reach \$3,000,000.

The Electrical Development Co. received a charter, 5 Edward VII, and was authorized to take 125,000 horsepower, or 8,000 cubic feet a second. The head-works, wheel pit, and tail race have been completed for 11 units of 12,500 horsepower each. The power house has been completed for seven units, but the machinery installed and contracted for is only for four units. The completion of the four units will involve the expenditure of \$6,300,000, and it may be increased to 11 units, or 132,000 horsepower, by the expenditure of \$1,756,000. This company has erected a transmission plant to Toronto which will convey 20,000 horsepower and that will involve an expenditure when completed of \$2,810,000. The demands for Canadian consumption which this company will satisfy are about 30,000 horsepower. There is an electrical transmission com-

pany of American origin and charter affiliated with this company which has expended about \$246,000 and has a relation to what is called the Nicholls syndicate, which owns interests in gas and power companies and in an electric railway company from Buffalo to Rochester which is under construction. It has franchises in its own name in seven towns and cities, but the enterprise is largely inchoate and the investment is in prospect rather than actual.

The Canadian Niagara Power Co. was organized in 1892 by the same persons who were interested in the Niagara Falls Power Co., the pioneer of electrical power companies on the American side. It is not limited in the quantity of power which it is to use, and its plans are subject to the approval of the commissioners of the Queen's Park. Plans have been approved for 120,000 horsepower, which means 11 units of 11,000 horsepower, with one of these as a "spare," which makes its normal capacity 110,000. Its headworks, wheel pits, and tailrace tunnel are completed for the full development. Five units have already been installed and its power house and transformer have been completed for five units. It has cost \$5,550,000, and to make 11 units would cost \$1,250,000 more. It has an underground conduit connecting the Canadian plant with the American plant of the Niagara Falls Power Co., with a capacity of 128,000 horsepower transmission, with cables in it of the capacity of 32,000. It has a separate transmission line 16 miles along the Niagara River to Fort Erie, with towers to carry the lines across the river, all of which transmission plant cost \$434,000. It sells in Canada 1,340 horsepower, with an option to purchasers to take 4,237 horsepower.

From what has been said it will be seen that the Ontario Power Co. has now invested or under contract \$6,500,000, which will produce 66,000 horsepower; that it and its affiliated companies have expended \$1,000,000 for transmission in Canada, and about \$3,000,000 for transmission in the United States.

That the Electrical Development Co. has invested \$6,300,000, which will produce 50,000 horsepower; and a transmission line in Canada of \$2,500,000, and perhaps \$300,000 in transmission lines in the United States.

That the Canadian Niagara Power Co. has invested \$5,350,000, which will produce 55,000 horsepower, and \$500,000 in transmission lines in the United States.

Capt. Kutz recommended the allowance to the Ontario Power Co. of a permit for 60,000 horsepower; to the Canadian Niagara Falls Power Co. the same amount, 60,000 horsepower; to the Electrical Development Co. 37,500.

I think the Ontario Co. is entitled to a larger allowance than the other two companies, because it generates 11,000 horsepower more than the Canadian Niagara Falls Co., and 16,000 horsepower more than the Electrical Development Co. It has invested \$200,000 more in its power plant than the Electrical Development Co. and \$1,000,000 more than the Canadian Niagara Falls Co. It uses for the production of one unit of horsepower perhaps 15 per cent less of water than the other two companies. But more than all, it has expended \$3,000,000 in a transmission line from the international boundary to Rochester, Syracuse, Lockport, and Buffalo. This investment is almost wholly dependent for use and profit on the importation of electricity from Canada. Capt. Kutz reports that 60,000 horsepower will enable the company to secure a reasonable return on the transmission investment after paying a proper amount for the power at the boundary. This would leave to be divided between the other two companies 99,000 horsepower, and objection is made to this discrimination against them in favor of the Ontario Power Co. because their plants are so arranged that by the expenditure of a million and a quarter the Niagara Co. could increase its output to 110,000 horsepower, and by the expenditure of a million and a half the Development Co. could increase its output to 130,000 horsepower, whereas the Ontario Co. must expend \$6,500,000 more to reach its full capacity of 180,000 horsepower, or about \$3,200,000 to reach a capacity of 130,000 horsepower. While this circumstance is entitled to some weight against proportioning the allowances to the capital actually expended on the power plants or the horsepower now produced from the present installations, still I think the considerations already suggested, especially the special expenditure for long distance transmission, really outweigh everything else in requiring that if possible a sufficient amount be allowed to pay a reasonable profit on that investment, which is wholly dependent on transmission.

Coming now to the division between the Niagara Falls Co. and the development company, the conclusion is not so easy. The development company has invested about three-quarters of a million more on its power plant than the Niagara Co., but under its present installation it can not produce as much horsepower by 5,000. It has expended \$2,500,000 to carry 20,000 horsepower to

Toronto and has contracts for 10,000 more. The Canadian business does not pay as well as the American business, especially that of the Niagara Co., which is quite profitable under its existing contracts. Considering these contracts, it seems to me that with its slight cost of transmission and the advantageous situation that it enjoys in respect to its affiliated American company, an allowance of 52,500 horsepower for the Niagara Co. will enable it to fulfill all its probable demands at a good profit. The works across the river produce 76,300 horsepower, and adding 52,500 horsepower makes 128,800 horsepower. The American company now earns 9 per cent on its stock of \$4,000,000 and interest on a bonded indebtedness of \$19,000,000. It has contracts requiring a maximum of 102,000 horsepower, but the call on its capacity has never exceeded 85,000 horsepower, because the calls do not coincide. On the capital invested, there is no likelihood that the Niagara Co. will suffer a loss. It will not make as much as it would have made had it been allowed to transmit its full capacity after building the contemplated additions to its installation, but the act only intended to save the investors from losses on the plant actually invested, not to compensate them for prospective gain.

This leaves for the Electrical Development Co. 46,000 horsepower to transmit to the United States after producing 30,000 horsepower and transmitting it to Toronto and elsewhere. This would justify the company in increasing the number of units in its installation if it could secure transmission to the United States. It is probable that the amount is not enough to justify the elaborate outlay required for transmission to American customers, and this reduces the value of the permit; but I can not think that it will not be able to arrange for the disposition of transmissible current at the boundary at such figures as to be profitable, even if the amount it makes per horsepower be less than that which the two American companies realize, because of their greater facility for reaching customers, the one through the Rochester transmission plant and the other through the American Niagara Co.'s plant and good will. Under this arrangement and allotment the Canadian Co. becomes the only one which, assuming a demand for its American delivery, will be justified in increasing the capacity of its power plant by installing more units. The demand in Canada for the product of the Ontario and Niagara companies may grow some, but not very much, so that they are likely to be confined to their present installation.

Before closing I ought to notice a claim of the Niagara Co. that it has by its charter a preferential right over the other two companies, so that it ought to be allowed its full 110,000 horsepower for transmission before the other two companies receive permits to transmit any current at all. The preference claimed is really only a priority in taking water from the river, and can not be reasonably extended to apply to rights to transmit current where there is no lack of water for all.

The Niagara Falls Power Co. and its Canadian other self ask that the two permits to them shall contain a provision by which in case of a reduction of the amount of water diverted on the American side below the permitted limit, a corresponding increase beyond the limit permitted on the Canadian side may be authorized. This privilege must be denied. The American diversion and the Canadian transmission must be kept separate in the permits and should be absolute and not variable. It would form an uncomfortable precedent in other cases.

It has been asserted by persons who profess to have information that the three companies here seeking permits are looking forward to an amalgamation of interests or a combination for the purpose of keeping up the prices of electrical power by avoiding competition that will deny to the public the benefit it is entitled to enjoy from the natural water power that these companies use at comparatively small benefit to any one of the Governments which authorize its use. This is denied by the applicants. Just what effect the existence of such a combination ought to have to require a revocation or modification of these permits is a matter of grave doubt, but should evidence in proper form of the existence of such combination be brought to me as a ground for the modification of the action now taken, it will be given careful consideration.

The order for permits will, therefore, be for—

The International Ry. Co.....	1,500
The Ontario Power Co.....	60,000
The Canadian Niagara Falls Power Co.....	52,500
The Electrical Development Co.....	46,000

The Chief of Engineers and Capt. Kutz will prepare the permits after consultation with counsel for the respective companies. An order should also be entered detaching Capt. Kutz to report a plan for the supervision of the operation of these companies under the permits, with a view to secure strict compliance with their terms.

W. H. TAFT,
Secretary of War.

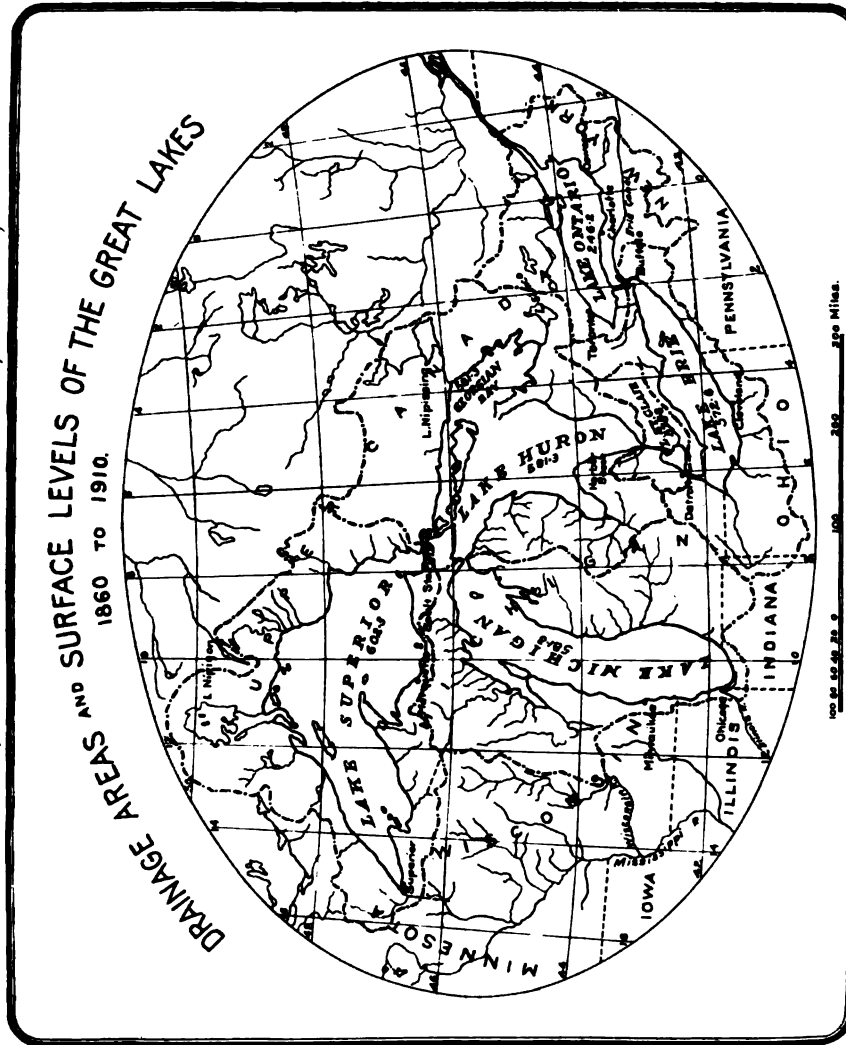
JANUARY 18, 1907.

A BILL For the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes.

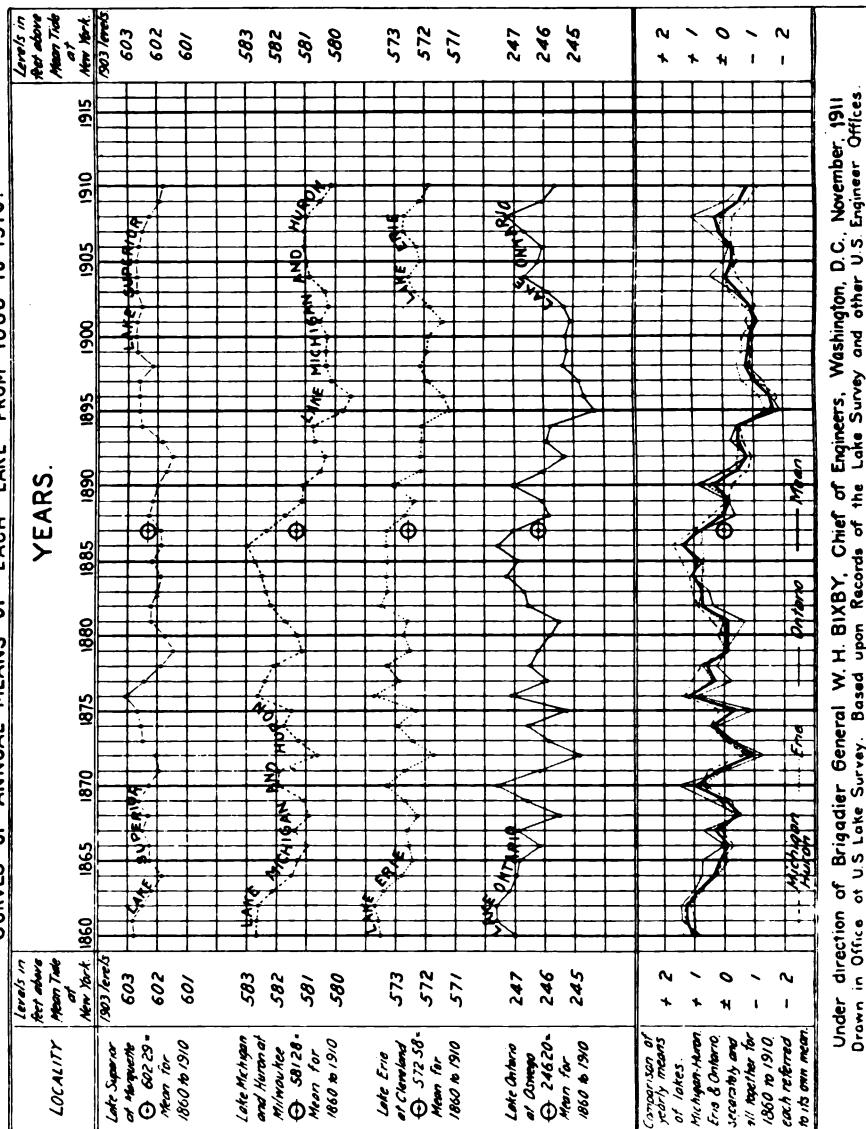
Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the diversion of water from Niagara River or its tributaries, in the State of New York, is hereby prohibited, except with the consent of the Secretary of War as hereinafter authorized in section two of this Act: *Provided*, That this prohibition shall not be interpreted as forbidding the diversion of the waters of the Great Lakes or of Niagara River for sanitary or domestic purposes, or for navigation, the amount of which may be fixed from time to time by the Congress of the United States or by the Secretary of War of the United States under its direction.

SEC. 2. That the Secretary of War is hereby authorized to grant permits for the diversion of water in the United States from said Niagara River or its tributaries for the creation of power to individuals, companies, or corporations which are now actually producing power from the waters of said river, or its tributaries, in the State of New York, or from the Erie Canal; also permits for the transmission of power from the Dominion of Canada into the United States, to companies legally authorized therefor, both for diversion and transmission, as hereinafter stated, but permits for diversion shall be issued only to the individuals, companies, or corporations as aforesaid, and only to the amount now actually in use or contracted to be used in factories the buildings for which are now in process of construction, not exceeding to any one individual, company or corporation as aforesaid a maximum amount of eight thousand six hundred cubic feet per second, and not exceeding to all individuals, companies or corporations as aforesaid an aggregate amount of fifteen thousand six hundred cubic feet per second; but no revocable permits shall be issued by the said Secretary under the provisions hereafter set forth for the diversion of additional amounts of water from the said river or its tributaries until the approximate amount for which permits may be issued as above, to wit, fifteen thousand six hundred cubic feet per second, shall for a period of not less than six months have been diverted from the waters of said river or its tributaries, in the State of New York: *Provided*, That the said Secretary, subject to the provisions of section five of this Act, under the limitations relating to time above set forth is hereby authorized to grant revocable permits, from time to time, to such individuals, companies, or corporations, or their assigns, for the diversion of additional amounts of water from the said river or its tributaries to such amount, if any, as, in connection with the amount diverted on the Canadian side, shall not injure or interfere with the navigable capacity of said river, or its integrity and proper volume as a boundary stream, or the scenic grandeur of Niagara Falls; and that the quantity of electrical power which may by permits be allowed to be transmitted from the Dominion of Canada into the United States, shall be one hundred and sixty thousand horsepower: *Provided further*, That the said Secretary, subject to the provisions of section five of this act, may issue revocable permits for the transmission of additional electrical power so generated in Canada, but in no event shall the amount included in such permits, together with the said one hundred and sixty thousand horsepower and the amount generated and used in Canada, exceed three hundred and fifty thousand horsepower: *Providing always*, That the provisions herein permitting diversions and fixing the aggregate horsepower herein permitted to be transmitted into the United States, as aforesaid, are intended as a limitation on the authority of the Secretary of War, and shall in no wise be construed as a direction to said Secretary to issue permits, and the Secretary of War shall make regulations preventing or limiting the diversion of water and the admission of electrical power as herein stated; and the permits for the transmission of electrical power issued by the Secretary of War may specify the persons, companies, or corporations by whom the same shall be transmitted, and the persons, companies, or corporations to whom the same shall be delivered.

From office of Brigadier General W. H. BIXBY, Chief of Engineers, Washington, D. C.

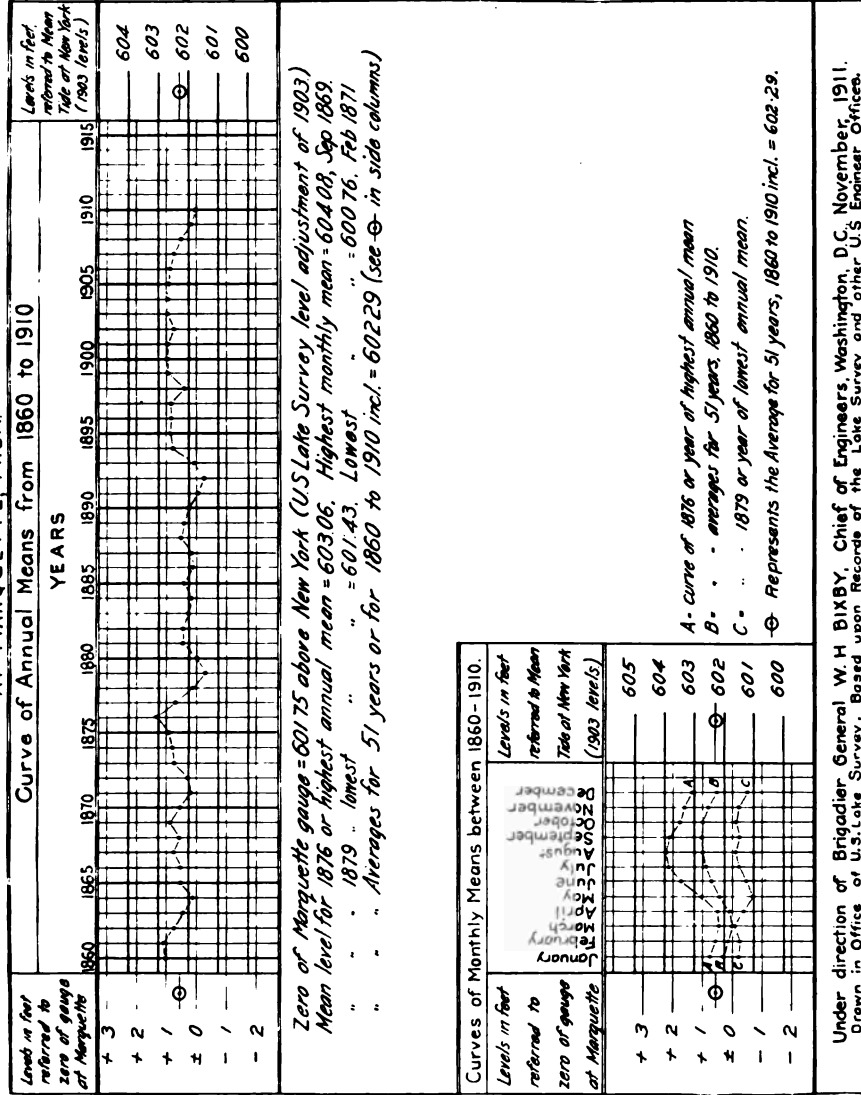


SURFACE LEVELS OF THE GREAT LAKES
CURVES OF ANNUAL MEANS OF EACH LAKE FROM 1860 TO 1910.

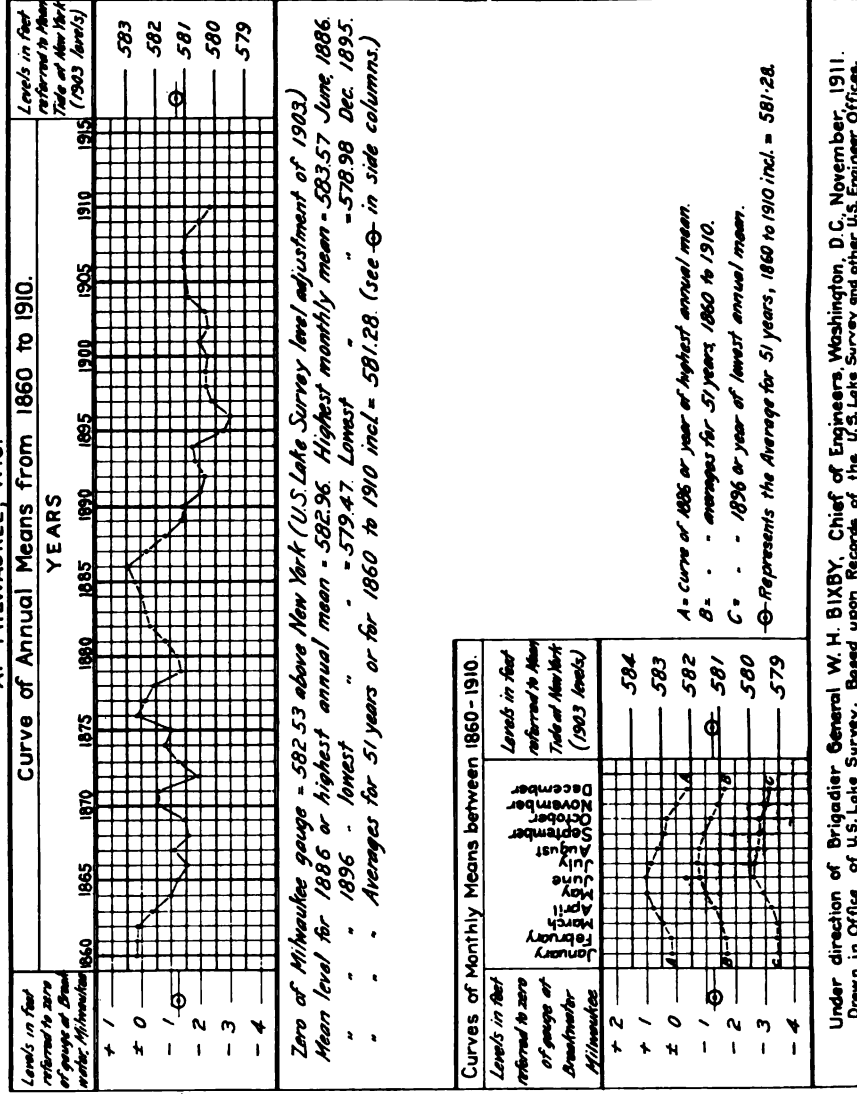


Under direction of Brigadier General W. H. Bixby, Chief of Engineers, Washington, D.C., November, 1911
 Drawn in Office of U.S. Lake Survey. Based upon Records of the Lake Survey and other U.S. Engineer Offices.

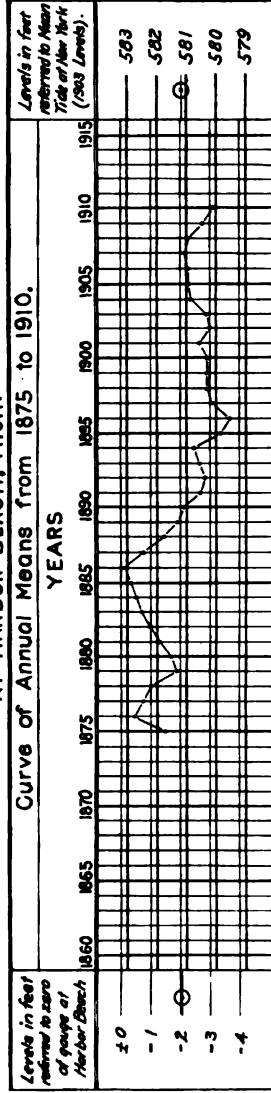
SURFACE LEVELS OF LAKE SUPERIOR AT MARQUETTE, MICH.



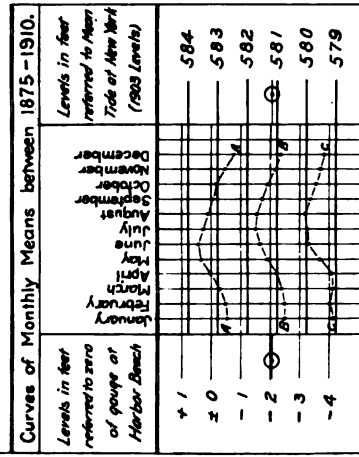
SURFACE LEVELS OF LAKE MICHIGAN AT MILWAUKEE, WIS.



SURFACE LEVELS OF LAKE HURON AT HARBOR BEACH, MICH.



Zero of Harbor Beach gauge = 583.21 above New York (U.S. Lake Survey level adjustment of 1903.)
 Mean level for 1886 or highest annual mean = 583.08 Highest monthly mean = 583.66. July 1876.
 " " " 1896 or lowest " = 579.53 Lowest " = 579.02. Dec. 1895.
 " " " Averages for 36 years or for 1875 to 1910 incl. = 581.19 (See ⊙ in side columns.)



A = Curve of 1886 or year of highest annual mean.
 B = " " Averages for 36 years, 1875 to 1910.
 C = " " 1896 or year of lowest annual mean.
 ⊙ Represents the average for 36 years, 1875 to 1910 incl. = 581.19.

Under direction of Brigadier General W. H. BIXBY, Chief of Engineers, Washington, D.C., November, 1911.
 Drawn in Office of U.S. Lake Survey, Based upon Records of the U.S. Lake Survey and other U.S. Engineer Offices.

Curve of Annual Means from 1860 to 1910.

Levels in feet referred to zero of gauge at Cleveland

1860 1865 1870 1875 1880 1885 1890 1895 1900 1905 1910

Levels in feet referred to Mean Tide at New York (1903 Levels)

574
573
572
571
570

Zero of Cleveland Gauge 573.82 above New York (U. S. Lake Survey Levels of 1903.)

Mean Level for 1876 or Highest Annual Mean = 573.70. Highest Monthly Mean = 574-52 June, 1876.

" " 1895 - Lowest = 572-17. Lowest " = 570-70 Nov., 1895.

" " " Averages for 51 Years or for 1860 to 1910 incl. 572-58 (see in Side Columns.)

Curves of Monthly Means between 1860 - 1910.

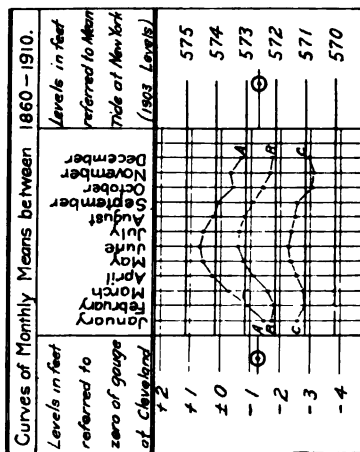
Levels in feet referred to zero of gauge at Cleveland

January February March April May June July August September October November December

Levels in feet referred to Mean Tide at New York (1903 Levels)

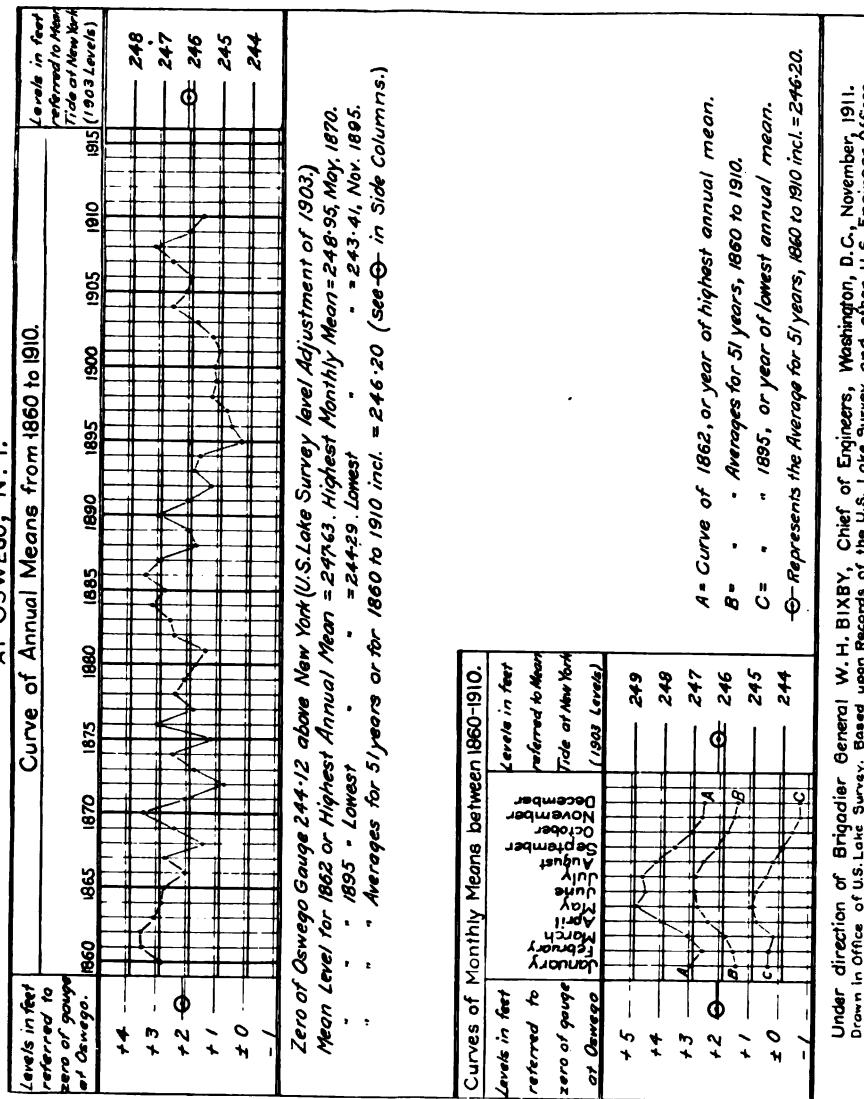
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Under direction of Brigadier General W. H. Bixby, Chief of Engineers, Washington, D.C. November, 1911.
Drawn in Office of U.S. Lake Survey. Based upon Records of the U.S. Lake Survey and other U.S. Engineer Offices.



Under direction of Brigadier General W. H. Bixby, Chief of Engineers, Washington, D.C. November, 1911.
Drawn in Office of U.S. Lake Survey. Based upon Records of the U.S. Lake Survey and other Engineer's Offices.

SURFACE LEVELS OF LAKE ONTARIO AT OSWEGO, N. Y.





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SEC. 3. That any person, company, or corporation diverting water from the said Niagara River or its tributaries, or transmitting electrical power into the United States from Canada, except as herein stated, or violating any of the provisions of this act, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding two thousand five hundred dollars nor less than five hundred dollars, or by imprisonment (in the case of a natural person) not exceeding one year, or by both such punishments, in the discretion of the court. And, further, the removal of any structures or parts of structures erected in violation of this act, or any construction incidental to or used for such diversion of water or transmission of power as is herein prohibited, as well as any diversion of water or transmission of power in violation hereof, may be enforced or enjoined at the suit of the United States by any circuit court having jurisdiction in any district in which the same may be located, and proper proceedings to this end may be instituted under the direction of the Attorney General of the United States.

SEC. 4. That the President of the United States is respectfully requested to open negotiations with the Government of Great Britain for the purpose of effectually providing, by suitable treaty with said Government, for such regulation and control of the waters of Niagara River and its tributaries as will preserve the scenic grandeur of Niagara Falls and of the rapids in said river.

SEC. 5. That the provisions of this act shall remain in force for three years from and after date of its passage, at the expiration of which time all permits granted hereunder by the Secretary of War shall terminate unless sooner revoked, and the Secretary of War is hereby authorized to revoke any or all permits granted by him by authority of this act, and nothing herein contained shall be held to confirm, establish, or confer any rights heretofore claimed or exercised in the diversion of water or the transmission of power.

SEC. 6. That for accomplishing the purposes detailed in this act the sum of fifty thousand dollars, or so much thereof as may be necessary, is hereby appropriated from any moneys in the Treasury not otherwise appropriated.

SEC. 7. That the right to alter, amend, or repeal this act is hereby expressly reserved.

Approved, June 29, 1906.

Maj. LADUE. There is another matter that I feel some hesitancy in touching on, since it affects only the scenic beauty of the Falls and vicinity, which is a subject not altogether in my line. In granting these permits in 1907 the Secretary of War incorporated in them certain conditions as to the restoration of the scenic beauty of the Falls and the Gorge. I may say that these conditions have been fully and wholly lived up to by the power companies. They have done everything that the War Department has asked them to do in this matter. To assist him in deciding what these conditions should be and what the companies should do, the Secretary of War engaged the services of several eminent artists and others under the designation of the Niagara Falls committee. The report of that committee is in this document (H. Doc. No. 246). It appears to me desirable, although I have no instructions from the Secretary of War to this effect, that in the legislation that is adopted there should be some provision which will justify continuing this committee in existence, or at least that it be so drawn as to not legislate the committee out of existence.

The CHAIRMAN. Are these commissioners paid by the Government now?

Maj. LADUE. There have been some fees paid to certain of the members of the committee for particular services. Their service on this committee is a work of love to a certain extent, and on account of the fact that they are very much interested in this subject, the fees that they are satisfied to receive are very much less than the fees they would receive for any such services in other employments, but they do receive small fees for their attendance on the committee.

Mr. KENDALL. About how many, Major, constitute this committee?

Maj. LADUE. I believe there are four.

Mr. GARNER. That is not the National Waterways Committee, is it?

Maj. LADUE. No, sir.

Mr. FOSTER. What are their names?

Maj. LADUE. Their names are: Mr. Frank D. Millet, Mr. Frederick Law Olmstead, Maj. John S. Sewell, and Maj. Charles Keller. Maj. Keller was appointed in place of Mr. McKim, who died.

Mr. GARNER. Could you estimate, Major, how much this committee has gotten up to date?

Maj. LADUE. The total expenditure on account of the committee, including expenses of every kind, from 1907 to date, has been \$3,627.80.

The CHAIRMAN. Major, will you be good enough to be here next Tuesday morning?

Maj. LADUE. Yes, sir. I shall be pleased to do so.

Mr. GARNER. Major, with the permission of the chairman, I want to say I believe it was yesterday, or the day before, there was some discussion about a permit that has not been utilized. Have you any additional information about that matter that you could give to the committee?

Maj. LADUE. I know nothing further than I knew the other night. In what particular?

Mr. GARNER. Well, if I could, I would like to have some reason given to the committee why a permit has been in existence for five years, and the company to which the permit was given has not utilized it to bring power into the United States. The permit has only been utilized by other companies to the extent of 10,000 or 12,000 horsepower, whereas it appeared from the statements of the gentlemen from Windsor, Ontario, that applications are now on file with the War Department asking for 25,000 horsepower to go into Detroit, Mich., and that application had been refused on the ground that the full extent of the permit had been already granted.

Maj. LADUE. The Burton law was limited by its terms to three years. It authorized the Secretary of War to grant permits for certain things—for the diversion of a certain amount of water and for the importation of a certain amount of power. In addition to these specified amounts, it authorized the Secretary of War, under certain specific conditions, to grant additional revocable permits for importation of additional power. I was not connected with this work at the time, but I presume that it has been generally considered that these permits, which were granted after a very thorough investigation and consideration of the claims of the various companies, were intended to remain in force as long as the Burton law remained in force, unless there should be some very good and compelling reason for their revocation. As I say, I give that as my view of the matter, but as far as I know the question has not been raised until this hearing. The Burton law has been extended two or three times, until now it has been over four years since these permits were originally granted, but I presume the same thought has been in the minds of those who have had to do with this matter, that it was the probable intent of the Burton law, as well as the intent of the permits given under that law, that these permits should last as long as the Burton law lasted, unless some good reason for their revoca-

tion should appear. So far as I know, there has been no question as to this permit of the Electrical Development Co. until recently.

Last year, in 1911, this Detroit company applied for a permit to transmit additional power into the United States at Detroit. They were told that the full amount of the 160,000 horsepower authorized by the Burton law was covered by existing permits. They were also told that there was a provision in the Burton law by which additional revocable permits might be granted under certain conditions specified. Those conditions were, as we informed the company, first, that such permits must be granted to companies legally authorized to do the business which they proposed to do; second, that the sum total of all permits for importation of power, including the 160,000 horsepower already spoken of, and all power generated and used in Canada, should not exceed 350,000 horsepower. We also told them,—and this is not in the Burton law, but is based on the treaty—that they would also be required to show that this additional power which they desired to import could be obtained without increasing the diversions on the Canadian side above 36,000 feet per second.

The representative of the company is not here and I am not conversant with the motives of the company, but they dropped the matter at the time. The Burton Act, of course, was about to expire, and that fact may have had some influence on their action, but I am unable to say. At any rate, they dropped the matter at the time. Recently, however, they have renewed their application for a permit for transmission of this additional power. With this new application they have given us the information that we asked for. They have shown us that they are legally authorized to do the business. They have shown us copies of their charter and contracts for the power. They have given us figures, which are verified by our records, showing that the 350,000 horsepower limit of the Burton Act will not be exceeded. They have also given us figures, which are verified by our records, showing that the diversion will not exceed the legal limit in Canada. The matter now becomes one of policy. Legally the permit can be granted. The question of policy rests with the Secretary of War, and is under consideration now.

Mr. GARNER. Has any other company applied for a permit to bring power in from Canada?

Maj. LADUE. I recall no recent application from any other company. Some years ago there were some applications, but as I recall the matter none of them came to the point of being formally acted upon by the Secretary of War.

Mr. GARNER. In construing the Burton act as giving a permit permanency during its life, if it were shown to you and to the War Department that the company that had the permit was not using it, would you still think that the Burton act contemplated, because you issued that permit, that you must keep it in existence during the life of that law to the exclusion of others?

Maj. LADUE. Not at all. I consider that if such a matter were formally presented it would be a question for consideration; and if the case were strong enough, if a proper case were made out, I would consider that under the law the permit might be revoked. There is no doubt that the permit is subject to revocation at any time under the act. It simply becomes a question of policy.

Mr. GARNER. And then it resolves itself into a question of whether it would be proper policy for the Government to revoke a permit and grant it to someone else?

Maj. LADUE. That is as I understand the matter.

Mr. GARNER. There is one company to which a permit was granted five years ago that has never utilized this permit as to selling its power, but another company has been importing it into the United States.

Maj. LADUE. There is one which is not now utilizing its permit.

Mr. COOPER. What company is that?

Mr. LADUE. The Electrical Development Co.

Mr. COOPER. Where did it get its charter?

Maj. LADUE. The Electrical Development Co. is a Canadian corporation which develops power. Of course, the permit is not granted to the Electrical Development Co., but to its associates on this side.

Mr. COOPER. Who are they?

Maj. LADUE. The Cataract Power & Conduit Co. of Niagara Falls and to the Niagara Falls Electrical Transmission Co., and to such other distributing agents as the Electrical Development Co. may designate.

Mr. HARRISON. Their charter was granted in 1903?

Maj. LADUE. Investigations before the permit was given showed that the company on the American side had gone to some expense to prepare its plant for the utilization of the power, and that at that time they were as much entitled to it as anybody else. Why they have not utilized it I do not know.

Mr. GARNER. Major, do you know the officers and members of that company? Have you a record of them?

Maj. LADUE. We can certainly get it if we have not got it.

Mr. KENDALL. Gen. Greene, do you know who they are?

Gen. GREENE. The permit gives the right to the Electrical Development Co. and to all the companies to whom they see fit to sell it. That is in the reports of the War Department, is it not? The permit reads as follows:

August 17, 1907.

To the Niagara Falls Electrical Transmission Co., and to the Cataract Power & Conduit Co., and to such other distributing agents of companies in the United States as the Electrical Development Co. of Ontario (Ltd.) may designate to receive from the said Electrical Development Co. of Ontario (Ltd.) at the international boundary line and to transmit into the United States 46,000 electrical horsepower, provided that a part of such electrical power may be received by the Cataract Power & Transmission Co., at the international boundary over the power transmission lines of the Canadian Niagara Power Co., and that the remaining part of such electrical power may be transmitted into the United States over transmission circuits thereafter to be approved by the Chief of Engineers, and may be received by the said Niagara Falls Electrical Transmission Co., or such distributing agents or companies in the United States as the said The Electrical Development Co. of Ontario (Ltd.) may designate.

Mr. GARNER. I believe you have purchased some power from this company that had the permit?

Gen. GREENE. Never; except one or two hours in the winter when our manufacturing load was a little more than our powerhouse could take care of.

Mr. GARNER. Who did purchase this power? Do you know?

Gen. GREENE. Well, it is common report that the Cataract Power & Conduit Co., of Buffalo, is purchasing power from them. That

contract was made public in reports of the Canadian park commissioners. It ran, as I recall, for three years, from 1907 to 1910, and was for one unit or such part of it as the Cataract Power & Conduit Co., of Buffalo, might wish to use, the maximum power of the unit being about 12,000 horsepower.

Mr. GARNER. Do you remember anything, General, about what price the contract for that power called for? You stated that the contract was made public?

Gen. GREENE. I was not strictly accurate. A reference to the contract was made public. I never saw the price and I do not know what it was.

Mr. GARNER. You do not know where we could get information as to the price they paid for this power?

Gen. GREENE. I do not know except from the officers of the Cataract Power & Conduit Co., or the officers of the Buffalo Electrical Development Co.

Mr. GARNER. I was speaking about any one in this city?

Gen. GREENE. I do not think the War Department has it.

You asked me, I think, as to the officers. The report further says: The Electrical Development Co., under a contract which expired June 20, 1911, formerly transmitted power to Terminal B station at Buffalo in parallel with the Canadian Niagara Power Co. The load was continuous, being the peaks for short periods of the day only. These peaks reached a maximum of 9,000 to 10,000 horsepower. Since the expiration of the contract no power has been exported from the plant of the Electrical Development Co.

No contract has been made with the Electrical Development Co. since the expiration of this contract.

You asked me as to officers of this company; they live in Toronto, Canada, and are as follows: Mr. Robert J. Fleming is the general manager; I think Sir William McKenzie is president, but am not perfectly sure; he is the principal owner.

Mr. GOODWIN. It is ascertained that after a life of 50 years one of these leases had expired and was renewed for 999 years; now is that correct?

Gen. GREENE. I think it is a little in error, sir. I think it said that the charter of a New York corporation which originally ran for 50 years had been extended to 999 years. Was not that it?

Mr. GOODWIN. Well, possibly it was in that form. Well, now, is that charter irrevocable if it should be ascertained, if we could ascertain the quantity of water that would flow from the cataract?

Gen. GREENE. I do not know as to the company; I can tell you as to the charters of the companies I am connected with. The contracts with the Park Commissioners, including the right to occupy their land and use the water going past their lands, in which they are riparian owners, run for 50 years beginning with 1900, together with three renewals of 20 years each, at a price to be agreed upon in each case, or settled by arbitration. The price for the first fiscal year is fixed.

Mr. GOODWIN. It seems to me it would be contrary to public policy to make a renewal of such extended length as practically 1,000 years.

Gen. GREENE. That is the charter, the right to do business; but the contract I speak of, or the right to take the water on the Canadian side, is 50 years, with the privilege of three renewals of 20 years each.

Mr. GOODWIN. What is it on the American side?

Gen. GREENE. On the American side the charter is perpetual, but they claim the right of ownership in the riparian rights to the waters of Niagara Falls, just the same as in the ownership of their land.

Mr. BROWN. That is covered under the New York laws.

The CHAIRMAN. You can proceed, Maj. Ladue.

Maj. LADUE. I have nothing more to say, unless the committee desires to ask me any questions.

Mr. GARNER. Major, have we any way, if I understand Gen. Greene's and your statements, of ascertaining the compensation that this electrical company that had the permit to import the power, received for transferring this permit to some other company?

Maj. LADUE. I think we have no record in the War Department of any such matters. I do not understand that they transferred their permit.

Mr. GARNER. Well, if I understand it, they did not produce power and import it, but they sold power.

Gen. GREENE. Yes; they produced the power and sold it to the Cataract Power & Conduit Co., of Buffalo, as this long contract I gave you gave them the right to do; but what price they got I do not know. I suppose you can summon the officers of the Cataract Power & Conduit Co. here and they will tell you.

Mr. GARNER. I was trying to get at what profit this company that had the permit to import the power into the United States and did not utilize that permit, made out of the permit. That is what I wanted to get at, if possible.

Maj. LADUE. I am unable to give any information on that subject. I do not think we have any source of such information.

Mr. COOPER. When do you expect that report, House Report No. 246, to be printed?

Maj. LADUE. We heard from the Government Printing Office that it was likely to be out this afternoon.

The CHAIRMAN. I called up the Government Printing Office and the Public Printer told me they were rushing the work. We will have it here before the hearings close.

Mr. HARRISON. I ask for information. Has the report of the International Waterways Commission been made a part of this record?

The CHAIRMAN. It has not been.

Mr. HARRISON. It appears to me it ought to be made a part of this record. I have read that report and it is very interesting. I find it in the hearings before the Committee on Rivers and Harbors in 1906.

The CHAIRMAN. Have you got it, Mr. Harrison?

Mr. HARRISON. Yes; it is in this book here.

The CHAIRMAN. How many pages?

Mr. HARRISON. It is not very long. About eight pages.

The CHAIRMAN. If there is no objection, that report can be incorporated in the record of these proceedings, and it is so ordered.

[Senate Document No. 242, Fifty-ninth Congress, first session.]

REPORT OF THE AMERICAN MEMBERS OF THE INTERNATIONAL WATERWAYS COMMISSION, WITH LETTERS FROM THE SECRETARY OF STATE AND THE SECRETARY OF WAR INCLUDING MEMORANDA REGARDING THE PRESERVATION OF NIAGARA FALLS.

To the Senate and House of Representatives:

I submit to you herewith the report of the American members of the International Waterways Commission regarding the preservation of Niagara Falls. I also submit to you certain letters from the Secretary of State and the Secretary of War, including memoranda showing what has been attempted by the Department of State in the effort to secure the preservation of the falls by treaty.

I earnestly recommend that Congress enact into law the suggestions of the American members of the International Waterways Commission for the preservation of Niagara Falls, without waiting for the negotiation of a treaty. The law can be put in such form that it will lapse, say in three years, provided that during that time no international agreement has been reached. But in any event I hope that this Nation will make it evident that it is doing all in its power to preserve the great scenic wonder, the existence of which, unharmed, should be a matter of pride to every dweller on this continent.

THEODORE ROOSEVELT.

THE WHITE HOUSE, March 27, 1906.

DEPARTMENT OF STATE,
Washington, March 24, 1906.

DEAR MR. PRESIDENT: I return the letter of the Secretary of War with the report of the American members of the International Waterways Commission, regarding the preservation of Niagara Falls.

I think the legislation recommended by the commission would be very useful.
Faithfully, yours,

ELIHU ROOT.

WAR DEPARTMENT,
Washington, March 20, 1906.

MY DEAR MR. PRESIDENT: I herewith transmit, for submission by you to Congress, the report of the American members of the International Waterways Commission, made by them in accordance with the joint resolution approved March 15, 1906, and set out in their report. The recommendations of the commission of legislation necessary and desirable to prevent the further depletion of water flowing over the Niagara Falls suggests the question whether such legislation is within the limitations of the legislative power of Congress, when applied to nonnavigable parts of a stream which is within the borders of a State and which is only partly navigable, if the use of the water to be inhibited does not affect navigation in the navigable part of the stream below. It would seem that the treaty power exercised by the President and Senate with respect to a stream which forms the boundary between this country and another would be subject to less limitation in this regard than the legislative power of Congress, and therefore that it might be more advisable to effect the result sought by Congress through a treaty than through a statute.

Very respectfully,

W. H. TAFT, *Secretary of War.*

The PRESIDENT.

REPORT OF THE AMERICAN MEMBERS OF THE INTERNATIONAL WATERWAYS COMMISSION REGARDING THE PRESERVATION OF NIAGARA FALLS.

INTERNATIONAL WATERWAYS COMMISSION,
OFFICE OF CHAIRMAN AMERICAN SECTION,
Washington, D. C., March 19, 1906.

SIR: 1. The American members of the International Waterways Commission have the honor to submit for transmittal to Congress this report, in compliance with the following joint resolution approved March 15, 1906:

"Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the members representing the United

States upon the International Commission created by section four of the river and harbor act of June thirteenth, nineteen hundred and two, be requested to report to Congress at an early day what action is in their judgment necessary and desirable to prevent the further depletion of water flowing over Niagara Falls; and the said members are also requested and directed to exert, in conjunction with the members of said commission representing the Dominion of Canada, if practicable, all possible efforts for the preservation of the said Niagara Falls in their natural condition."

2. The surplus waters of Lake Erie are discharged through the Niagara River into Lake Ontario, the mean level of Lake Erie being 572.86 feet and that of Lake Ontario being 246.61 feet above the sea. Leaving Lake Erie at Buffalo, the river is navigable and flows with a moderate slope to a short distance below Welland River, or Chippewa Creek, about 19 miles, in which distance it has a fall of about 14 feet. The slope here is suddenly increased and the river ceases to be navigable. In the next half mile it has a fall of about 50 feet, forming the rapids above the falls. It is divided by Goat Island into two arms of unequal size, that on the Canadian side carrying about seven times the volume of water carried by that on the American side. At the foot of Goat Island the waters of both arms plunge over a vertical precipice, constituting Niagara Falls proper, that on the Canadian side being usually known as the Horseshoe Fall, and that on the American side as the American Fall. The height of the Horseshoe Fall is about 161 feet and that of the American Fall 165 feet. Immediately below the falls the river is again navigable for a short distance, and then assumes the character of rapids as far as Lewiston, 7 miles from Lake Ontario, where it again becomes navigable and remains so until it enters the lake.

3. The volume of water flowing varies with the level of Lake Erie, which level is subject to variations of several feet, depending upon the rainfall, barometric pressure, and direction and force of the wind. At the mean level of the lake (elevation 572.86) the volume of discharge is 222,400 cubic feet per second. At a very low stage (elevation 571) the volume is 180,800. (See Annual Report, Chief of Engineers, U. S. Army, for 1900, p. 5361.) For short periods in mid-winter, or with prolonged adverse winds, it has sometimes been even less.

4. It is the great volume of water in the falls themselves and in the rapids which makes the place unique. The tremendous display of power in wild turbulence fascinates the mind, and gives to the question of Niagara's preservation a national interest.

5. The local authorities on both sides of the river have recognized their responsibilities in this matter, but have taken somewhat different views as to what these responsibilities are. As long ago as 1883 the State of New York provided for the acquisition of the lands in that State adjoining the Falls, with a view to creating a public park, and in 1885 it declared that these lands "shall forever be reserved by the State for the purpose of restoring the scenery of the Falls of Niagara to and preserving it in its natural condition; they shall forever be kept open and free of access to all mankind without fee, charge, or expense to any person for entering upon or passing to or over any part thereof." A commission of five was created to carry out the purposes of the act. The State reservation now includes 412 acres, part of which is under water, and an annual appropriation of some \$25,000 is made for its care and maintenance. The commission has no jurisdiction beyond the limits of the reservation, but it has never throughout its existence failed to protest and bring all its influence to bear against the depletion of the falls by the abstraction of water above and beyond the limits of the reservation. Nevertheless, the State legislature has granted numerous franchises for the diversion of water, as will appear further on.

6. Soon after the creation of the New York State reservation a public park was created on the Canadian side, called the Queen Victoria Niagara Falls Park, and was placed under the control of five commissioners. This park now extends practically the whole length of the Niagara River from Lake Erie to Lake Ontario, and embraces an area of about 734 acres. By an act of the Ontario Legislature (62 Victoria, chap. 11), it was enacted that "The said commissioners, with the approval of the lieutenant governor in council, may enter into an agreement or agreements with any person or persons, company or companies, to take water from the Niagara River or from the Niagara or Welland Rivers at certain points within or without the said park for the purpose of enabling such person or persons, company or companies to generate within or without the park electricity, or pneumatic, hydraulic, or other power, conducting or discharg-

ing said water through and across the said park or otherwise in such manner, for such rentals, and upon such terms and conditions as may be embodied in the agreement or agreements and as may appear to the lieutenant governor in council to be in the public interest." In 1903 this act was amended by adding thereto the words "but no such agreement shall be operative unless and until ratified and confirmed by the legislative assembly." (3 Edward VII, cap. 7.) Inasmuch as the park receives no aid from the legislature in the way of annual appropriations for its support, the commissioners have felt justified in using with some freedom the power thus granted in order to obtain a revenue for the general improvement and maintenance of the park. Prior to the amendment of 1903 they entered into four important agreements for the diversion of water, and caused an investigation to be made as to the availability of additional sites for power works. Two of these agreements were with a single corporation, which has thus far utilized only one.

7. The great water power available at Niagara Falls naturally attracted the attention of engineers at an early day, but it was not until it could be transmitted and used in the form of electricity that its development on a large scale became financially practicable. There are now five principal corporations engaged in furnishing or preparing to furnish electricity for commercial purposes obtained from the water power, two of them located on the American and three on the Canadian side. A brief description of each is here given. A map showing their location is submitted herewith. It is to be remarked that none of the diversions have been sanctioned by the United States Government.

8. *I. Niagara Falls Hydraulic Power & Manufacturing Co.*—This company was organized in 1877 under the general laws of the State of New York. It purchased a canal which had been constructed before the Civil War leading from Port Day, above the falls, through the city of Niagara Falls, to the edge of the cliff below the falls, where a grist mill had been established. (See map.) The length of this canal was about 4,400 feet, its width 36 feet, and its depth 8 feet. A width of 70 feet and depth of 10 feet had been projected. In 1881 the company established its first station for supplying electricity for lighting, this being the first public distribution for commercial purposes of electricity derived from Niagara Falls. The increasing demand for electricity and the improved methods of transmitting it led to a steady development of the works of this company and to the establishment of others. In 1895 an important enlargement of the canal having been begun, the right of the company to take water from the river was questioned by the commissioners of the State reservation at Niagara. An opinion was obtained from the attorney general of the State of New York (copy appended marked "A") in which it was held that the Niagara River is a navigable river in law, that the company had no right to increase the capacity of its canal, that it had no right to divert any water from the river, and that a diversion of water sufficient to diminish the flow over the falls was a nuisance and could be restrained.

The New York Legislature thereupon passed an act (chap. 968, Laws of 1896), in which the right of the company "to take, draw, use, and lease and sell to others to use the waters of Niagara River for domestic, municipal, and sanitary purposes, and to develop power therefrom for its own use and to lease and sell to others to use for manufacturing, heating, lighting, and other business purposes, is hereby recognized, declared, and confirmed." No limit as to the time during which these rights were to exist was fixed, but the amount of water to be taken was limited to that which could be drawn by a canal 100 feet wide, with such depth and slope as would maintain at all times a depth of 14 feet. The amount of water thus described is not specific. It is computed to be about 9,500 cubic feet per second for the works now under construction, but it would be possible to construct works under different plans which would use a much greater quantity of water. The company is now using about 4,000 cubic feet per second. It is extending its works, and expects to develop about 134,000 horsepower, in addition to which its tenant companies will develop about 8,000 horsepower. It has paid nothing to the State for its privileges. A list of the more important industries which this company supplies, with electricity is given in Appendix B. Its managers estimate that the power plant and the industries dependent upon it for power represent an investment of \$10,000,000.

9. *II. Niagara Falls Power Co.*—In 1886 the New York Legislature granted a charter to a company called the "Niagara River Hydraulic Tunnel Power & Sewer Co. of Niagara Falls," subsequently amended in 1886, 1889, 1891, 1892, and 1893. (See chap. 83, 1886; chap. 489, 1886; chap. 109, 1889; chap. 253, 1891;

chap. 513, 1892; chap. 477, 1893.) In 1889 the name of the company was changed to "The Niagara Falls Power Co." It is authorized to take water sufficient to generate 200,000 horsepower, computed to be about 17,200 cubic feet per second. Its franchise is for 50 years from March 31, 1886. The location of its works is shown upon the map. Beginning about a mile above the falls a short intake canal is constructed nearly at right angles with the river shore. Upon each side of the canal deep pits are excavated in the rock, at the bottom of which are placed the turbines, and over which are placed the power houses. The water, after passing through the turbines, is carried off by a tunnel about 21 feet in diameter under the city of Niagara Falls to the lower river, a distance of about 7,000 feet. The company has in operation two power houses having a combined capacity of about 105,000 horsepower.

It is working the plant nearly to its full present capacity, using about 8,000 cubic feet per second, in addition to which one of its tenant companies is using about 600 cubic feet. It paid nothing to the State for its privileges, but is bound to furnish free of charge electricity for light and for power and also water for the use of the State in the State reservation at Niagara and the buildings thereon, when requested to do so by the commissioners of the State reservation. It distributes electric power over a wide area of territory and to a great variety of commercial interests in Niagara Falls, Tonawanda, Olcott, and Buffalo, in some cases over 35 miles distant. A list of the consumers dependent upon this company is given in Appendix C. The investment is stated by the managers to be over \$6,000,000 in the power plant, and \$7,000,000 or \$8,000,000 in other industries established on its lands at Niagara Falls and dependent upon it.

10. *III. Canadian Niagara Power Co.*—This company is an allied company of the Niagara Falls Power Co. just described. It was incorporated by an act of the legislature of the Province of Ontario in 1892, which also confirmed an agreement dated April 7, 1892, between the company and the commissioners for the Queen Victoria Niagara Falls Park. In 1899 an act was passed conferring upon those commissioners authority to modify this agreement and to make other agreements for the construction of power works, as specified above. The agreement was modified July 15, 1899, and June 19, 1901.

11. The company is authorized to construct certain works, which works will have a capacity of 110,000 horsepower, and by inference to take the quantity of water required for that purpose, although the agreement does not in terms limit the capacity of the works or the quantity of water. The amount required to supply the works which have been approved and are under construction is computed to be about 9,500 cubic feet per second. The location of the works is shown upon the map. They are of the same general type as those of its allied company on the American side. Water is taken from the river about a quarter of a mile above the falls through a short canal and fore bay and discharged through penstocks into turbines near the bottom of a deep wheel pit excavated in the solid rock, over which is placed the power house. After passing through the turbines, the water is carried off by a tunnel about 2,000 feet long, and discharged into the river below the falls. The works are not completed, and less than half of the generators have been installed, the quantity of water used thus far being about 2,600 cubic feet per second. They are operated in connection with those of the allied company on the American side. They represent an investment of several million dollars.

12. The company agrees to pay for its privileges an annual rental of \$15,000, for which it may generate 10,000 electrical horsepower or less; for all above 10,000 and under 20,000 horsepower it pays in addition to the above \$1 per annum for each horsepower; for all above 20,000 and under 30,000 it pays a further sum of 75 cents per annum for each horsepower; and for all above 30,000 it pays a still further sum of 50 cents per annum for each horsepower; that is to say, the annual rental for generating 30,000 horsepower will be \$32,500, and for generating 110,000 horsepower will be \$72,500.

13. The period for which the privileges are granted is 50 years from May 1, 1899, but the company is entitled, at its option, to 3 renewals of 20 years each, the rentals to be adjusted at the time of each renewal, if the lieutenant governor in council so desires, and at the end of the third renewal the lieutenant governor in council may require a still further renewal of 20 years; the entire period thus covering by the agreement being 130 years.

14. *IV. Ontario Power Co.*—This company was incorporated by an act of the Dominion Parliament in 1887, and was empowered to take water from the Welland River, or Chippewa Creek, near its mouth at Chippewa; this is, in-

directly from the Niagara River. On the 11th of April, 1900, it entered into an agreement with the park commissioners to construct works for that purpose, but before progressing far in the work of construction it changed its plans, and on the 28th of June, 1902, it made another agreement with the commissioners, under which it is now working. It claims that the first agreement is still valid and may be utilized hereafter if the company so desires. Under the agreement of June 28, 1902, the company is authorized to construct works according to certain plans submitted, which works will have a capacity of 180,000 horsepower, and by inference to take the quantity of water required for that purpose, although the agreement does not in terms limit the capacity of the works or the quantity of water. The amount required to supply the works, which have been approved and are under construction, is computed to be about 12,000 cubic feet per second. The location of the works is shown upon the map. Water is taken from the river at Dufferin Island, about half a mile above the intake of the Canadian Niagara Power Co., or three-quarters of a mile above the Falls, and after passing through an elaborate system of screens enters a gate-house, and thence is transmitted through three underground conduits, each 18 feet in diameter, to a power house located near the foot of the cliff below the Falls. The length of the pipe line to the nearest penstock is 6,180 feet, and to the most distant penstock about 1,000 feet more. The works, which represent an investment of several million dollars, are not completed, only about 2,000 cubic feet per second now being used.

15. The company agrees to pay for its privilege an annual rental of \$30,000, for which it may generate 20,000 electrical horsepower or less. For all above 20,000 and under 30,000 horsepower it pays, in addition to the above, \$1 per annum for each horsepower; for all above 30,000 and under 40,000 it pays a further sum of 75 cents per annum for each horsepower, and for all above 40,000 it pays a still further sum of 50 cents per annum for each horsepower; that is to say, the annual rental for generating 40,000 horsepower will be \$47,500, and for generating 180,000 horsepower will be \$117,500.

16. The period for which the privilege is granted is 50 years from April 1, 1900, but the company is entitled, at its option, to three renewals of 20 years each, and after the third renewal the lieutenant governor in council may require a fourth renewal of 20 years, the rentals to be adjusted at each renewal, the entire period thus covered by the agreement being 130 years.

17. *V. Electrical Development Co.*—On the 29th of January, 1903, the commissioners for the Queen Victoria Niagara Falls Park entered into an agreement with three citizens of Canada, subsequently transferred to "The Electrical Development Co. of Ontario (Ltd.)," incorporated by act of the Legislature of Ontario. (5 Edward VII, chap. 12.) Under this agreement authority was given to take from the Niagara River water sufficient to develop 125,000 electrical horsepower. The amount is computed to be 11,200 cubic feet per second. The location of the works is shown upon the map. Water is taken from the river about midway between the intakes of the Canadian Niagara Power Co. and of the Ontario Power Co., or about half a mile above the Falls. A gathering dam, about 750 feet long, extends out into the river obliquely upstream, designed to divert the required amount of water into the power house, which is located upon the original shore line. Under the power house is a wheel pit, excavated in the solid rock to a depth of 158 feet, at the bottom of which are placed the turbines. After passing through the turbines the water is conveyed by a tunnel to the base of the Falls and discharged about midway between the Canadian and American shores. The works are not completed, and no water is now being used. They represent an investment of several million dollars.

18. The company agrees to pay for its privileges an annual rental of \$15,000, for which sum it may generate 10,000 electrical horsepower or less; for all above 10,000 and less than 20,000 horsepower it pays, in addition to the above, \$1 per annum for each horsepower; for all above 20,000 and less than 30,000 it pays a further sum of 75 cents per annum for each horsepower; and for all above 30,000 it pays a still further sum of 50 cents per annum for each horsepower; that is to say, the annual rental for generating 30,000 horsepower will be \$32,500, and for generating 125,000 horsepower will be \$80,000.

19. The period for which the privilege is granted is 50 years from February 1, 1903, but the same provisions are made for renewals as in the cases of the other companies, and the entire period covered by the agreement is thus 130 years.

20. In the case of each of the Canadian companies the authorities reserve the right to require that one-half the power generated shall be supplied to places in Canada.

21. Water is diverted also by the Park Electric Railway, under authority of the commissioners, the quantity to be used under plans now in execution, being estimated at 1,500 cubic feet per second, developing about 8,000 horsepower, while the actual present use is about 600 cubic feet per second.

22. In addition to the foregoing, six charters were granted by the New York Legislature between the years 1888 and 1894 to corporations organized to take water from the Niagara River, but it is believed that all, with the possible exception of two, have expired by limitation. In one case, the Niagara, Lockport & Ontario Power Co., an act to renew passed the legislature in 1904, but was vetoed by Gov. Odell in his message of May 14 of that year. The company, however, claims the rights granted under its original charter, and is constructing works for the distribution of electrical energy developed by other companies, but is not itself diverting water. Another corporation, the Niagara County Irrigation & Water Supply Co., has done some work, and claims that its charter has thus been preserved, but it has diverted no water. A list of these charters is given in Appendix D.

23. The Dominion of Canada has granted charters to two corporations in addition to those already mentioned organized to take water from the Niagara River for power purposes. It has chartered two other corporations, organized to take for power purposes water from Lake Erie which would naturally be tributary to the Niagara River. These companies have not finally developed their plans, and it is believed that their franchises are therefore not perfected, although all but one are still in force. In one case the charter has expired by limitation. The charters fix no limit to the amount of water which may be used. A charter was granted in 1889 by the Province of Ontario to the Hamilton Cataract, Power, Light & Traction Co. This company is using water from the Lake Erie level of the Welland Canal, which water would otherwise be tributary to the Niagara River. The volume now being used is estimated at about 1,800 cubic feet per second, and is to be increased. A list of these charters will be found in Appendix E.

24. The Chicago Drainage Canal, constructed under the authority of the State of Illinois, was designed to divert about 10,000 cubic feet per second of water which would naturally flow over Niagara Falls. It has not been fully completed, but it now has a capacity of about 5,000 cubic feet per second. The amount which it is actually diverting has thus far been limited by the Secretary of War to about 4,200 cubic feet per second. In addition to the foregoing, about 833 cubic feet per second of Lake Erie water is now taken for power purposes from the Erie Canal at Lockport.

25. Full and precise information concerning the plans and the legal rights of the companies which have not begun or completed their works has not been obtainable. In the cases of the corporations now furnishing or preparing to furnish electricity for commercial purposes, the franchises are vague as to the volume of water to be used, which is the feature of greatest interest here. We have computed the volumes from the available data, and have endeavored to make the figures conservative. It must be understood that these figures are fair approximations. In proceeding to an examination of the effect upon Niagara Falls of the works proposed, the subject is much simplified by considering only those companies which derive their water from the Niagara River itself, and that is the course here pursued. Any effects caused by these works will be exaggerated by the other works mentioned.

26. The total quantity of water to be taken from the river by works now authorized is:

	Cubic feet.
Niagara Falls Hydraulic Power & Manufacturing Co.....	9,500
Niagara Falls Power Co.....	17,200
Canadian Niagara Power Co.....	9,500
Ontario Power Co., not including Welland River Development.....	12,000
Electrical Development Co.....	11,200
Niagara Falls Park Railway Co.....	1,500
Total	60,900

Of this amount 26,700 cubic feet is to be taken on the American side and the remainder, 34,200 cubic feet, on the Canadian side. That is, 27 per cent of the average discharge and 33 per cent of the low-water discharge of the Niagara

River will cease to pass over the Falls when these works are completed and in full operation. The quantity to be diverted is more than double the quantity which now passes over the American Fall, which at the average stage is about 27,800 cubic feet. That this will in general have an injurious effect upon the Falls seems self-evident. The volume of water to be diverted is about the equivalent of the entire discharge of Lake Superior over the Sault Ste. Marie. The amount thus far actually diverted is but 17,800 cubic feet per second, and has had an appreciable effect upon the Falls. To foretell with accuracy the effects in detail of the full diversion authorized would require a more complete knowledge of the bed of the river than is now obtainable. The water taken on the Canadian side below the crest of the rapids will affect the Horseshoe Fall alone. If all that taken on the American side should affect the American Fall alone, it would practically leave it dry; but it seems probable that only a part of this diversion will be at the expense of the American Fall.

Exactly what portion that will be can not be stated with precision, but from a study of the channels and reefs, so far as they are known, a reasonable estimate is that the water would come from the two arms in about the proportion of one-sixth from the American Fall and five-sixths from the Horseshoe Fall. Exactly what form the changes in the two cataracts will take, whether they will be made narrower, or be broken up into a greater number of streams, or simply be reduced in volume, retaining in general their present form, can not now be foretold, for the reason that there is no accurate knowledge of the form of and depth of water on the crests. If 69,000 cubic feet per second be diverted, the loss will be important, but if the diversion be limited to this amount, or reduced, as hereafter indicated, it may not prove disastrous. This can not be definitely determined until the works now under construction have been completed and put in operation. When that happens, if it be found that the Falls have not suffered serious damage, as a scenic spectacle, it does not follow that additional water may be diverted with impunity. Additional diversion would be an experiment even more dangerous than that now being tried, and in our opinion should not be permitted.

27. In return for the impairment of the Falls thus far authorized, the State of New York will receive practically nothing for the 342,000 horsepower authorized on that side, and the Queen Victoria Niagara Falls Park will receive an annual rental of \$270,000, or an average of 65 cents per horsepower for the 415,000 horsepower authorized on the Canadian side. These figures do not include the 8,000 horsepower being developed by the electrical railway nor the power developed by the Hamilton Co. with water from the Welland Canal.

28. If all the water and all the head from the top of the upper rapids to the foot of the Falls could be utilized, there would result over 4,000,000 mechanical horsepower. Probably space could be found, if desired, for works which would utilize about half of this, or, say, 2,000,000 horsepower, or possibly more. As they could not utilize all the head, they would use much more than half the water. It will require time to create a market for all this power, but it is reasonably certain that it will in due season be found if the development of the power itself is to go on unchecked. The difference in cost in favor of falling water over any other method of developing power is so great that all other methods are sure to be abandoned where sufficient water power is available. The difference at Niagara Falls is probably not less than \$15 or \$20 per annum per horsepower. The cost of transmission to distant points increases with the distance, and finally becomes so great as to be unprofitable; but electrical engineers are engaged in improving the methods and reducing the cost. An average difference of cost for each horsepower can not now be given with any close degree of approximation, but the difference, whatever it is, is a perpetual annual saving, which, if capitalized, will show that the commercial value of the power at Niagara Falls is very great and is to be measured by the hundred millions of dollars.

29. Whether this commercial asset shall be utilized to such an extent as to seriously impair the majesty and scenic beauty of the Falls depends upon the public will. In our opinion the commercial advantages of a large increase in development of power will not compensate for the great loss to the world of the inspiration, æsthetic education, and opportunity for recreation and elevating pleasure which the mighty cataract affords. The direct advantages to the public from revenue is nothing on the New York side of the river and comparatively slight on the Canadian side. There is, of course, an indirect advantage due to added taxable wealth and reduction in the cost of power, but these advantages are, in our opinion, slight in comparison with those which

spring from the preservation of the beauty and majesty of the Falls in their natural condition. Over 800,000 people visit the Falls annually, deriving pleasure and inspiration from them. The nations of the world have always recognized the great value of parks and reservations, and throughout the civilized world they have preserved places of natural grandeur and beauty and furnished parks, artificially beautified, for rest, education, and the elevation of their people. An illustration may be given in the case of the city of New York, one of many hundreds. There the municipality has acquired, in Central Park, property which is estimated to be worth \$225,000,000, and has spent millions upon its improvement and ornamentation. The United States Government has reserved lands of striking picturesqueness, grandeur, and interest, regardless of their value. These illustrations would seem to prove conclusively that the people are not inclined to offset mere commercial values against the intangible but none the less great advantages found in the preservation of the great works of nature.

30. It is probably not expedient to attempt the recovery of the rights granted to companies which have taken full advantage of them. In the case of the Niagara Falls Power Co., on the American side, the franchise authorizes it to develop 200,000 horsepower. It has constructed works having about half that capacity, but has not begun the construction of the additional works, and we believe, has no present intention of doing so. In the case of the Ontario Power Co., on the Canadian side, the construction of works under the agreement of April 11, 1900, has been indefinitely postponed. The authority for the additional works in both these cases could probably be withdrawn without inflicting an unreasonable hardship. All franchises of which advantage has not been taken should be extinguished.

31. The following is a summary of the foregoing statement of facts:

(a) The glory of Niagara Falls lies in the volume of its water rather than in its height, or in the surrounding scenery.

(b) Works are now authorized and partially completed at the Falls which will divert from the Niagara River above the Falls about 27 per cent of the average discharge, and about 33 per cent of the low-water discharge, which is more than double the quantity now flowing over the American Fall. In addition to this, water naturally tributary to the Niagara River is being diverted through the Chicago drainage canal, and for power in addition to navigation purposes through the Erie and the Welland Canals.

(c) The effect of this withdrawal of water is to injure both the American and the Horseshoe Falls in nearly equal proportions. While the injury will be perceptible, it may not be destructive or disastrous.

(d) Improvements in the transmission of electric power and increased demand will make a market for all the power which can be developed at Niagara Falls, and will cause a destruction of the Falls as a scenic spectacle if the development be allowed to go on unchecked.

(e) Charters have been granted to corporations which propose to divert additional amounts in quantities not now limited.

(f) The sums of money invested, or being invested, in the works now in operation or under construction, and in the industries dependent upon them, amount to many millions of dollars. It is probably not expedient to attempt the withdrawal of the rights thus utilized.

(g) The commercial value of the water power at Niagara Falls is very great, but if compared with values set aside by wealthy communities elsewhere for park purposes this value is not too great to be devoted to similar purposes. The place is visited annually by about 800,000 people.

32. If the Falls are to be preserved it must be by mutual agreement between the two countries. As a step in that direction we recommend that legislation be enacted which shall contain the following provisions, viz:

(a) The Secretary of War to be authorized to grant permits for the diversion of 28,500 cubic feet per second, and no more, from the waters naturally tributary to Niagara Falls, distributed as follows:

	Cubic feet.
Niagara Falls Hydraulic Power & Manufacturing Co.....	9,500
Niagara Falls Power Co.....	8,600
Erie Canal or its tenants (in addition to lock service).....	400
Chicago Drainage Canal.....	10,000

(b) All other diversion of water which is naturally tributary to Niagara Falls to be prohibited, except such as may be required for domestic use or for the service of locks in navigation canals.

(c) Suitable penalties for violation of the law to be prescribed.

(d) The following prohibition to remain in force two years, and then to become the permanent law of the land, if, in the meantime, the Canadian Government shall have enacted legislation prohibiting the diversion of water which is naturally tributary to Niagara Falls, in excess of 36,000 cubic feet per second, not including the amounts required for domestic use for the service of locks in navigation canals. It is assumed, however, that an understanding upon this subject would be reached by treaty.

The object of such legislation would be to put a stop to the further depletion of the Falls, and at the same time inflict the least possible injury upon the important interests now dependent upon this water power. The amount to be diverted on the Canadian side has been fixed with a view to allowing to the companies on that side the amounts for which they now have works under construction, which are:

	Cubic feet.
Canadian Niagara Power Co.....	9,500
Ontario Power Co.....	12,000
Electrical Development Co.....	11,200
Niagara Falls Park Railway Co.....	1,500
Welland Canal or its tenants (in addition to lock service).....	1,800

34. One of the effects of such legislation would be to give to Canada the advantage of diverting 7,500 cubic feet per second more than is diverted in the United States. The advantage is more apparent than real, since the power generated on the Canadian side will to a large extent be transmitted to and used in the United States. In the negotiation of a treaty, however, the point should be considered.

35. The substance of this report was submitted to our Canadian colleagues before the passage of the joint resolution, with a view to uniting in a joint report under the general law providing for the commission. There was a substantial agreement in the statement of facts, and such differences as developed with respect to the recommendations which ought to be made did not seem insuperable, but our colleagues desired time for further consideration. We have no doubt of their sympathetic interest in carrying out that part of the instructions contained in the resolution which requires us "to exert in conjunction with the members of said commission representing the Dominion of Canada, practicable, all possible efforts for the preservation of Niagara Falls in their natural condition."

Very respectfully,

O. H. ERNST,
Colonel, Corps of Engineers, Chairman.
GEORGE CLINTON,
Member.
GEO. Y. WISNER,
Member, American Section.

The SECRETARY OF WAR,
Washington, D. C.

REPORTS UPON THE EXISTING WATER-POWER SITUATION AT NIAGARA FALLS, SO FAR
AS CONCERN THE DIVERSION OF WATER ON THE AMERICAN SIDE—REPORT BY THE
AMERICAN MEMBERS OF THE INTERNATIONAL WATERWAYS COMMISSION.

INTERNATIONAL WATERWAYS COMMISSION,
OFFICE OF AMERICAN SECTION,
Buffalo, N. Y., November 15, 1906.

Mr. SECRETARY: The American members of the International Waterways Commission have the honor to return herewith the report dated October 5, 1906, by Capt. Charles W. Kutz, Corps of Engineers, United States Army, upon the subject of permits for diverting water on the American side at Niagara Falls, referred to them by your indorsement of October 13.

In our report¹ dated September 29, 1906, we gave a brief description of the four kinds of permits authorized by the act approved June 29, 1906, and we concurred in the recommendations contained in Capt. Kutz's report¹ of August 15, 1906, which referred to permits of the third kind, or those for transmitting electrical power from Canada into the United States to the aggregate amount of 100,000 horsepower. The report by Capt. Kutz now under consideration

¹ Printed in War Department Document No. 284, Office of the Chief of Engineers.

refers to permits of the first kind, or those for diverting water from the Niagara River on the American side to an aggregate amount not exceeding 15,600 cubic feet per second.

The conditions prescribed in the law for this kind of permits are that—

1. They must be issued "to individuals, companies, or corporations which are now actually producing power from the waters of said river or its tributaries in the State of New York or from the Erie Canal."

2. The amount of water to be allowed must not exceed that "now actually in use or contracted to be used in factories the buildings for which are now in process of construction."

3. The amount to be allowed "to any one individual, company, or corporation as aforesaid" must not exceed 8,600 cubic feet per second.

4. The total amount to be allowed "to all individuals, companies, or corporations as aforesaid" must not exceed an aggregate of 15,600 cubic feet per second.

Applications have been received from the Niagara Falls Power Co. for a permit to divert 8,600 cubic feet per second, from the Niagara Falls Hydraulic Power & Manufacturing Co. for a permit to divert 6,400 cubic feet per second, and from numerous industries at Lockport and at Medina, using small quantities of water from the Erie Canal.

After a careful examination of all the circumstances which should affect a decision as to the amount of water to be allowed under the act, including the capital invested, the present capacity of the works and their present output, the quantity of water now actually in use, the contracts made for furnishing power, with the dates of such contracts, the future capacity of the works as projected, and the charter rights under New York State law, Capt. Kutz reaches the conclusion that a permit should be granted to the Niagara Falls Power Co. for the maximum amount allowed, viz, 8,600 cubic feet per second. He finds that the company and its tenants have that amount actually in use and may reasonably ask for the whole of it, and in that opinion we concur. He is in doubt whether it should include the water which is occasionally used for sluicing debris and ice. The amount of this is not accurately known, but it is estimated at between 600 and 700 cubic feet per second during the sluicing process. It is used only intermittently. The total amount thus used in a year would, if distributed throughout the year, be but a small average per second. The law is explicit in prohibiting a permit for any amount whatever in excess of 8,600 cubic feet per second, but it seems a reasonable interpretation to take that as the general average and to allow the company to use a slightly less amount during the greater part of the year in order to accumulate enough water to supply the demands of sluicing upon the occasions when it is needed.

After a similar careful examination of all the circumstances relating to the Niagara Falls Hydraulic Power & Manufacturing Co., Capt. Kutz reaches the conclusion that a permit should be granted that company for the diversion of 5,743 cubic feet per second, exclusive of the amount required for sluicing, or for 6,403 cubic feet per second if the water for sluicing be included. The latter is estimated at 660 cubic feet per second. It seems to us desirable that the permits to the two companies should resemble each other in their provisions for sluicing. If to the 5,743 cubic feet per second just mentioned there be added 107 cubic feet per second as an average for sluicing, an allowance will be made for the accumulation of water which will provide 680 cubic feet per second for sluicing during 116½ hours of each month, or 59 days in each year, an allowance which is ample. Under this arrangement the amount to be granted to this company for the use of itself and its tenants would be 5,850 cubic feet per second.

The industries using water from the Erie Canal are numerous, and the quantity of water diverted is comparatively small. At Lockport 27 persons or corporations are using water taken either from the upper or the lower level. It is understood that most of the water from the upper level is returned to the canal; but the arrangement of tunnels is such that the water has two outlets, and it is impossible to determine what portion is permanently diverted into Eighteenmile Creek. Many of these industries are located one below the other on Eighteenmile Creek, and use the same water successively, taking it from the lower level. The quantity of water permanently diverted from the canal at Lockport is found from measurements taken above and below all diversions to be upon an average 193 cubic feet per second.

Industries at Medina, N. Y., use about 165 cubic feet per second. The number of the industries is not given, but it is understood that they are in general of about the same magnitude as those at Lockport.

The total amount of water diverted from the Erie Canal is therefore 358 cubic feet per second, and the number of industries using it is between 30 and 40. Many of these industries have made application for permits; but many others have not, and of those applying many use the water which has previously been used by one or more others. Manifestly there is difficulty in apportioning the proper amount among so great a number. After apportionment there would be difficulty in the enforcement by the Federal authority of the provisions of the permits if granted. The canal is owned by and is under the exclusive control of the State of New York. The State engineer protests against the granting by the United States of any permit which shall impose an obligation upon the State. Capt. Kutz suggests that the difficulty may be met by treating all these industries as tenants of the State and granting the permit to the State, as it is proposed to provide for the tenants of the Niagara Falls Power Co. and of the Niagara Falls Hydraulic Power & Manufacturing Co. by the permits of those companies. He recommends that a permit for the diversion of 358 cubic feet per second be granted to the State of New York.

The objections to this course are that the State of New York has not applied for a permit and might perhaps not be willing to accept one, and it is a somewhat forced interpretation of the law to include the State among the "individuals, companies, or corporations which are now actually producing power," to whom the privilege must be restricted. It is our opinion that the person first using the water after it leaves the canal should have a permit directly from the Secretary of War, and that persons using it afterwards may be allowed to do so without a permit. The information necessary for the issuance of these permits is not now at hand. We have taken steps to secure it, and if the honorable Secretary of War concurs in the opinion just expressed we propose to submit a supplementary report upon the subject as soon as possible hereafter.

We accordingly recommend that permits for the diversion of water from the Niagara River be granted to the Niagara Falls Power Co. for 8,600 cubic feet per second and the Niagara Falls Hydraulic Power & Manufacturing Co. for 5,850 cubic feet per second, it being understood that these are average amounts, and that the larger amounts occasionally required for sluicing may be accumulated by using generally smaller amounts.

Yours, very respectfully,

O. H. ERNST,
Chairman.
GEORGE CLINTON,
Member.
E. E. HASKELL,
Member.

Hon. W. H. TAFT,
Secretary of War.

REPORT BY CAPT. CHARLES W. KUTZ, CORPS OF ENGINEERS.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, October 5, 1906.

GENERAL: 1. Referring to the orders of the Secretary of War dated July 14, 1906, in reference to the power situation at Niagara Falls, and to the report dated August 15, 1906, in reference to the Canadian power companies and their associated transmission companies, I now have the honor to submit a report in reference to those companies seeking permits to divert water on the American side.

2. The law limits the present granting of permits for diversion to those individuals, companies, or corporations which are now using water for power purposes from the Niagara River, or its tributaries, or from the Erie Canal.

3. The only companies coming within the scope of the act of Congress are the Niagara Falls Power Co., the Niagara Falls Hydraulic Power & Manufacturing Co., and numerous small industries at Lockport and at Medina, N. Y.

4. Upon request, the two large companies prepared specific replies in writing to each of the questions propounded by the Secretary of War, and copies of these replies are appended hereto, marked Appendix I and Appendix J.

The Niagara Falls Power Co.

5. This company was created, organized, and continued by six acts of the legislature of the State of New York, as follows: Chapter 83 of laws of 1886, chapter 489 of the laws of 1886, chapter 109 of the laws of 1889, chapter 253 of the laws of 1891, chapter 513 of the laws of 1892, and chapter 477 of the laws of 1893. In section 2 of one of these acts (chapter 513, laws of 1892) it is provided "that nothing contained therein or in any of the former acts concerning said corporation shall be so construed as to confer an exclusive right nor any right to infringe upon the State reservation, or to obstruct the navigation of the Niagara River, or to take therefrom more water than shall be sufficient to produce two hundred thousand effective horsepower."

6. The general construction adopted by this company for utilizing the energy of the Falls is as follows: A short canal has been excavated at a point about 1 mile above the Falls on the American side, its direction being approximately at right angles to the river; this canal is 250 feet wide at the mouth, narrowing to 100 feet at its upper end; its depth is about 12 feet. Two power houses have been constructed on opposite sides of this canal. The water is carried by the means of penstocks to the turbines which are installed near the bottom of the two wheel pits under the two respective power houses. After leaving the turbines the water is discharged into a horseshoe-shaped tunnel with an area equivalent to that of a circle 21 feet in diameter, which carries it to the lower river, a distance of about 7,000 feet.

7. In power house No. 1 the turbines discharge their water into the tailrace openly without draft tubes. In power house No. 2 draft tubes are used, making the theoretical effective head 144 feet in power house No. 2 as against 136 feet in power house No. 1. These power houses have a combined generator capacity of 105,000 horsepower.

8. In addition to the above, water is supplied from the intake canal to the International Paper Co. and to the pumping plant of the Niagara Falls Water Works Co.

9. As a result of more or less recent tests made by the engineers of the power company, it was determined that an average in the two power houses of 0.101 cubic foot of water per second was required to develop 1 electrical horsepower at the switchboard. If this determination is correct, the development of 100,000 electrical horsepower, the nominal capacity of the plant, would require 10,100 cubic feet of water per second. This amount exceeds by 1,500 cubic feet the amount computed as necessary under the assumed efficiency of the turbines and the theoretical effective heads noted above. This difference is due to certain defects in the design, the tail water in the two wheel pits standing at such a level as to materially affect the effective head.

10. The plant of the International Paper Co., one of the power company's tenants, consists of 6 turbines, each rated 1,600 horsepower, and 2 centrifugal pumps, representing about 69 horsepower. The amount of water used by this company was determined by test made in 1904, using a current meter placed at various points in a given cross section of the paper mill's headrace. These measurements were taken with an average of 87 per cent of gate opening, and showed a flow of about 660 cubic feet per second, or about 750 cubic feet per second with full gate opening.

11. The hydraulic plant of the Niagara Falls Water Works Co. consists of two Pelton water wheels, each rated at 400 effective horsepower, and the amount of water used does not exceed 75 cubic feet per second. The officers of the Niagara Falls Power Co. are of the opinion that the use of water by the Water Works Co. for developing power to run their pumps is exempted from the prohibition of diversion on the ground that it is indirectly used for domestic and sanitary purposes.

12. Deducting the amounts used by its tenant companies, 825 cubic feet per second, from the maximum amount for which a permit can now be granted to any one individual, company, or corporation—that is, 8,600 cubic feet per second—there remains 7,775 cubic feet a second for use in the power plant. Again, deducting the amount used in the exciter turbines, stated to be 35 cubic feet per second, and using the ratio obtained from the company's tests above mentioned, the maximum electrical output of this company is limited by law for the present to 76,630 electrical horsepower.

13. This limitation does not take into consideration the water that is occasionally used for sluicing debris and ice, the amount of which is not known. It is questionable whether water used for this purpose should be included in that for which a permit is considered necessary. Such use is intermittent, and

it is practically impossible to determine the amount used at any given time. The Niagara Falls Hydraulic Power & Manufacturing Co. estimates that 660 cubic feet per second is at times required for this purpose. If it be determined that water used for sluicing ice must be included in the amount covered by the permit, the mid-winter electrical output of this company will be still further curtailed.

14. The maximum output of this company during the week preceding that in which the examination was made was 64,800 horsepower, while the average of the maximum weekly loads since October, 1905, was 73,000 horsepower.

15. The company in its statement includes a list of contracts for furnishing power in which the optional amounts aggregate 167,000 horsepower. Of this amount 102,550 horsepower has been called and is now in use. These contracts cover the output of both this plant and that of the Canadian Niagara Power Co. The amount called for represents the sum of the maximum amounts of power used by their tenants. These peak loads never occur simultaneously, and the actual peak electrical load generated up to date by the American and Canadian plants combined has been about 85,000 horsepower.

16. The books of this company show an investment in power plant of \$13,500,000. This amount is largely in excess of what it would cost to reproduce it, as it is evident from the investments now being made on the Canadian side. It is also evident from the estimate of \$7,000,000 given as the amount required to increase the capacity of the plant to the statutory limit—that is, 200,000 effective horsepower. This large investment, \$135 per horsepower developed, is partly accounted for by the fact that this company was the pioneer in this method of utilizing the power of Niagara Falls, but it can not fairly be said to be due to investments made with the object of doubling the capacity of the plant. The intake is probably larger than necessary for the development of 100,000 horsepower, but the rest of the plant was designed for that amount. Notwithstanding this large investment, the books of the company show that its net earnings, after paying interest on its bonded debt and all other fixed charges, now amount to 9 per cent on its outstanding capital stock of over \$4,000,000.

17. This company is entitled by reason of its contracts to the fullest consideration that is now possible under the law—i. e., a permit for the diversion of 8,600 cubic feet per second. Such a permit will practically limit the company to its present output and will not allow any growth, but if this company is allowed to receive from the Canadian Niagara Power Co. the amount recommended, 60,000 electrical horsepower, the normal development of the two companies considered as one will not be seriously interfered with.

The Niagara Falls Hydraulic Power & Manufacturing Co.

18. This company was chartered under the laws of the State of New York in 1878, and subsequently, by an act of the Legislature of the State of New York, known as chapter 968, laws of 1896, its rights were confirmed. In this confirmatory act the company was limited and restricted to the use of "such quantity of water as may be drawn by means of the hydraulic canal of said company when enlarged through its entire length to a width of 100 feet and to a depth and slope sufficient to carry at all times a maximum uniform depth of 14 feet of water." This limitation is more or less indefinite, but the capacity of such a channel has been computed to be 9,500 cubic feet per second without material diminution of the head.

19. The canal leaves the Niagara River about 1 mile above the Falls and extends through the city to a point about one-half mile below the Falls, where the power houses of the company are situated.

20. It is being widened and deepened to the maximum authorized dimensions. The widening down to the water surface has been completed, except at two points where work is now in progress. A great deal of work has also been done toward giving it a uniform depth of 14 feet throughout the width of 100 feet, but this work has not been completed.

21. The company disposes of its power in three ways. First, it sells water to six corporations, who develop power with their own machines. This water is used under heads varying from 50 to 125 feet, with an average head, considering the quantities used at each elevation, of about 90 feet, or less than one-half of the maximum effective head. The amount of water so furnished is computed to be 1,332 cubic feet per second. In power house No. 2 (No. 1 being obsolete),

situated on the river bank at the foot of the bluff, the company develops 32,000 mechanical horsepower, using for the purpose 2,011 cubic feet of water per second under an effective head of 200 feet. Of this amount 27,368 mechanical horsepower are sold to customers, who convert it into electrical power by the use of generators attached to the power company's turbines. The remaining power developed in power house No. 2 is converted into and sold as electrical power. For several years past the company has been engaged in the further development of its water power, and now has under construction a fore bay capable of furnishing sufficient water, when the canal has been widened and deepened to the extent authorized by law, to develop practically 100,000 additional horsepower. As stated above, much of the necessary enlargement work on the canal has been completed, the greater part of the excavation for the power house itself has been completed, the fore bay is under construction, and intakes leading to the penstocks, with their corresponding gates and valves, are being installed for the complete development.

Of the amount to be developed in power house No. 3, 36,000 horsepower is for use of the Pittsburgh Reduction Co., a contract for its sale having been entered into on the 20th day of November, 1905. For developing this amount there will be required about 2,400 cubic feet of water per second. As the conditions laid down by the act of Congress have been complied with so far as this additional development is concerned, it is recommended that the necessary permit be issued. In the statement furnished by the company as to the water now in use there is included 660 cubic feet per second for sluicing debris and ice. It is questionable whether this amount should be included in that for which a permit is considered to be necessary. Such use is intermittent, and it is practically impossible to determine the amount used at any given time. If the diversion of water for this purpose does not require a permit, this company is entitled under the law to a permit for 5,743 cubic feet per second, being the amount now actually in use and contracted to be used in factories in process of construction. If the water used for sluicing ice and debris must be included the permit should be for 6,403 cubic feet per second.

22. The settlement of this question will not affect the Niagara Falls Hydraulic Power & Manufacturing Co., but will affect the output of the Niagara Falls Power Co.

23. The investment represented by the plant of the Niagara Falls Hydraulic Power & Manufacturing Co. is \$5,600,000. This includes \$1,400,000 expended or obligated for work on the canal and in connection with power house No. 3. It is estimated that \$1,500,000 additional will be required for completing the canal and power house No. 3.

24. While the granting of a permit to this company for the diversion of 6,400 cubic feet per second will enable it to meet its contract obligations, it will not permit it to take the full advantage of the investment already made nor allow for any growth. The investment that will be rendered useless is roughly estimated at \$290,000 for the canal and \$360,000 for power house No. 3.

Industries using water for water purposes derived from Erie Canal at or near Lockport, N. Y., and at Medina, N. Y.

25. In 1826 the State of New York leased to Richard Kennedy and Junius H. Hatch so much of the waters of the Erie Canal as could be spared from the canal at the head of the locks at Lockport at an annual rental of \$200. The lease referred to was perpetual and in 1856 it, or the principal part of the rights under it, came into the hands of the Lockport Hydraulic Co., which has since then operated the lease. The lease provides that the water so used shall be discharged into the lower level at such place and in such manner as the State canal commissioners shall from time to time deem most advisable for the security of the canal and for the convenience of the navigation thereon.

26. In an investigation of this matter made in July by the secretary of the American section of the International Waterways Commission it was developed that the arrangement of tunnels in Market Street near Exchange Street was such that the water drawn from the hydraulic race could find its outlet either into the canal or through the culvert to the mill pond and eventually down Eighteenmile Creek, thus making it impossible to determine what portion of the water supplied to these mills is permanently diverted from the canal, though it is understood that as a rule it is all returned to the canal. In the application filed with the Secretary of War by the Lockport Hydraulic Co. the amount of

water used by its tenants and delivered to the lower level is stated to be approximately 500 cubic feet per second, whereas Mr. Henry A. Van Alstyne, New York State engineer and surveyor, is authority for the statement that 350 cubic feet per second is the amount taken from the upper level and returned to the lower level of the canal. In a subsequent letter from the attorney for the Lockport Hydraulic Co. it is learned that the amount named in the application represents the maximum quantities covered by the company's leases, and further that it includes the amount of water required to operate the machinery of the Holly Manufacturing Co.'s plant not now in actual operation, but which was used for more than 20 years prior to 1904, and which then developed 150 horsepower.

27. In addition to the industries which obtain their water through the Lockport Hydraulic Co. there are a number of large manufacturing plants being operated at the city of Lockport by power produced from the surplus water of the canal spilled from the canal below the locks and used successively in the progress of the water down the channel of Eighteenmile Creek. The use of the water spilled from the lower level of the canal is not covered by any contract with the State of New York, and it is understood that the State of New York derives no revenue from it. Furthermore the State engineer and surveyor, Mr. Henry A. Van Alstyne, protests against the granting of any permit by the United States to parties using water spilled from the canal, on the ground that it will impose an obligation on the State of New York to furnish the amount of water covered by the permit, an obligation which does not now exist.

28. To supply losses due to evaporation and leakage it will probably be necessary under any circumstances to pass a certain amount of water around the locks from the upper level to the lower level, so that the amount so transferred does not appear to have any particular bearing on the subject of this investigation. The real question to be determined is the amount of water that is taken from the canal for power purposes and not returned thereto.

29. Reliable gaugings made under the direction of the State engineer and surveyor of the State of New York show that the average amount of water flowing eastward in the Erie Canal in the rock cut at the city of Lockport above all points of diversion of water for power is 805 cubic feet per second, and that the flow in the canal below the locks at Lockport and below all points where water is diverted for power or other purposes is 612 cubic feet per second, so that there is diverted from the canal in the city of Lockport 193 cubic feet per second. This includes both the water diverted for power and the water passing over the canal spillway.

30. As all water used at Lockport, whether permanently diverted from the canal or whether transferred from one level to a lower level of the same canal, is brought from Lake Erie in a waterway constructed and paid for entirely by the State of New York, it would seem that any permit granted by the United States for the diversion of water from the Erie Canal should be granted not to the individual users, but rather to the State of New York. The same principle is followed in the case of the Niagara Falls Power Co. and the Niagara Falls Hydraulic Power & Manufacturing Co., each of which owns its intake canal and has tenants taking water therefrom, though the permit is granted for the full amount to the owner of the intake canal.

31. Conflicting information has been received concerning the amount of Lake Erie water that is taken from the Erie Canal by the spillway and gates at Medina, N. Y. Mr. Franchot, the superintendent of public works, State of New York, stated, under date of July 17, that he believed the amount of water fed into the canal from Oak Orchard Creek and Genesee River was practically equal to the amount abstracted from the canal, while Mr. Bond, the chairman of the advisory board of consulting engineers, State of New York, is authority for the statement that the Oak Orchard feeder supplies in low years only 10 cubic feet per second, while the amount abstracted is about 175 cubic feet per second. Assuming the latter information to be more nearly correct, the maximum amount of Lake Erie water diverted from the canal at this point is 165 cubic feet per second. The total amount of Lake Erie water that is permanently diverted from the Erie Canal at times of minimum flow in the feeder is therefore 193 plus 165, or 358 cubic feet per second, and it is recommended that a permit for this amount be issued to the State of New York.

32. If it be determined that the amount of water occasionally used for sluicing debris and ice must be included in any permits that are granted, the interested parties are, in my opinion, entitled under the law to permits for diversion as follows:

	Cubic feet per second.
Niagara Falls Hydraulic Power & Manufacturing Co. in greater detail than is Niagara Falls Hydraulic Power & Manufacturing Co.....	6,403
State of New York.....	358

33. Descriptions of the power plants of the Niagara Falls Power Co. and the Niagara Falls Hydraulic Power & Manufacturing Co. in greater detail than is given in the body of the report are appended hereto, marked Appendix K and Appendix L. They were prepared by Mr. Earl Wheeler, electrical engineer, who assisted in the examination.

Very respectfully,

CHARLES W. KUTZ,
Captain, Corps of Engineers.

Brig. Gen. A. MACKENZIE,
Chief of Engineers, U. S. A.

REPORTS UPON THE EXISTING WATER-POWER SITUATION AT NIAGARA FALLS, SO FAR AS CONCERNS THE CANADIAN POWER COMPANIES AND THEIR ASSOCIATED TRANSMISSION COMPANIES—REPORT BY THE AMERICAN MEMBERS OF THE INTERNATIONAL WATERWAYS COMMISSION.

INTERNATIONAL WATERWAYS COMMISSION,
OFFICE OF AMERICAN SECTION,
Buffalo, N. Y., September 29, 1906.

Mr. SECRETARY: The American members of the International Waterways Commission have examined the report dated August 15, 1906, by Capt. Charles W. Kutz, Corps of Engineers, United States Army, upon the subject of permits to the power companies at Niagara Falls, referred to them by your indorsement of September 5. They have the honor to return it herewith, and to submit in connection therewith the following remarks:

In our report,¹ dated March 19, 1906, we stated that the works projected on the American side at Niagara Falls would produce 342,000 horsepower, besides a small amount on the Erie Canal, and would consume about 28,000 cubic feet of water per second, while those projected on the Canadian side would produce 432,000 horsepower, besides a small amount on the Welland Canal, and would consume about 36,000 cubic feet of water per second. We thought that the amount on the American side could be reduced to 242,000 horsepower, using 18,500 cubic feet of water per second, without inflicting undue hardship upon invested capital, but we doubted the expediency of attempting to withdraw the other rights acquired by the power companies at Niagara Falls. These views were adopted by Congress with qualifications.

In the act approved June 29, 1906, the amount of water to be diverted on the American side was cut down to 15,600 cubic feet per second in the first instance, but with the provision that additional amounts may be diverted after an interval of not less than six months if it be found that that can be done without detriment to Niagara Falls or the river.

The amount of power to be generated on the Canadian side was cut down from 423,000 to 350,000 horsepower, the control of Congress in the matter arising from the fact that a very large percentage of the Canadian output must, under present conditions, find a market in the United States. Under no circumstances is the total to be increased, but the amount which may be transmitted to the United States is to be diminished as the amount consumed in Canada shall increase. In this sliding scale a limit is fixed which divides the permits into two kinds, one of which may possibly be expected to have somewhat more permanency than the other, viz. permits to transmit electrical power from Canada into the United States to the aggregate amount of 160,000 horsepower, and revocable permits for the transmission of additional electrical power to the extent just indicated. It appears to us that this distinction was

¹ Printed in Senate Document No. 242, Fifty-ninth Congress, first session.

made for the purpose of giving a little more assurance of permanency to certain of the permits than it was possible to give to all of them and not for the purpose of trying an experiment as to the effect upon the Falls of the diversion of a quantity of water so indefinite in amount. This view seems confirmed by the fact that the maximum amount allowed on the Canadian side, 350,000 horsepower, is about 83 per cent of the amount mentioned in the report, 423,000 horsepower, while the amount allowed on the American side, 15,600 cubic feet per second, is about 84 per cent of that mentioned in the report, the percentage of reduction thus being practically the same in the two cases. We see no reason why revocable permits for the transmission of power from Canada into the United States, additional to the 160,000 horsepower first to be authorized, should not be issued without delay if application for such permits be received.

The law provides for the issuance by the Secretary of War of four kinds of permits, viz:

1. Permits to divert water from the Niagara River on the American side to an aggregate amount not exceeding 15,600 cubic feet per second.
2. Revocable permits to direct additional water from the Niagara River on the American side to such amount, if any, as shall not injure the river as a navigable stream or as a boundary stream and shall not injure the scenic grandeur of Niagara Falls, but no such permits shall be issued until approximately the 15,600 cubic feet per second mentioned above shall have been diverted for a period of not less than six months.
3. Permits to transmit electrical power from Canada into the United States to the aggregate amount of 160,000 horsepower.
4. Revocable permits for the transmission of additional electrical power from Canada into the United States, but in no case shall the amount included in such permits, together with the 160,000 horsepower mentioned above and the amount generated and used in Canada, exceed 350,000 horsepower.

Applications have been received for permits of the first and third kinds, but in this report Capt. Kutz confines himself to a consideration of those relating to the transmission of power from Canada into the United States, deferring to a future report all that concerns the diversion of water on the American side. He defers also a consideration of the question of granting transmission permits for amounts additional to the first 160,000 horsepower, expressing the opinion that it is "the intent of the law to delay the issue of such permits until it is known what appreciable effect, if any, will be produced on the Falls by the diversion of the amount of water that will be used under the first limitation." As above stated, we do not concur in that opinion, but the fact that no applications have been received for permits of this kind is sufficient reason for not discussing them at this time.

Applications for the transmission of power have been received from four companies, including the International Railway Co., whose rights under Canadian law to transmit power to the United States are in dispute and whose claims are small compared with those of the other companies. Capt. Kutz recommends that no permit be issued to that company at this time, but that 2,500 horsepower be reserved for the present in order that it may be possible to grant the company a permit for that amount hereafter should the controversy over its rights under the Canadian laws be decided in its favor. In that recommendation we concur.

There will remain 157,000 horsepower to be divided among the three remaining applicants. These applicants are the American transmission companies, but their interests are identical with those of the Canadian companies from whom they derive power and must be considered in connection therewith. They are:

1. Niagara, Lockport & Ontario Co., taking power from the Ontario Power Co., applying for 90,000 horsepower.
2. Electrical Transmission Co., taking power from the Electrical Development Co., applying for 62,500 horsepower.
3. Niagara Falls Power Co., taking power from the Canadian Niagara Power Co., applying for 121,500 horsepower.

The application of the Niagara Falls Power Co. is for 11,500 horsepower more than the capacity of the works from which it is to derive power when completed as designed. The other companies ask for one-half the capacity of the works furnishing the power when completed as designed. The total amount asked for is 274,000 horsepower.

Capt. Kutz has spared no pains in the collection of all the facts which have a bearing upon the question of how the available amount shall be divided

among the three companies. After a careful consideration of the amounts of capital invested in the power plants, the amounts required to complete the works as designed, their capacity as completed under expenditures now made or pledged, their capacity as designed, the amounts of capital invested in transmission lines in the United States or on Canadian soil to connect with the United States, the contracts made for furnishing and receiving power, and other data, he concludes that there is no sufficient reason for discrimination between the companies except their relative ability to command the Canadian market. The Electrical Development Co. was organized with that market prominently in view and is able to obtain a sale there of about 25,000 horsepower more than either of the other companies. Its claim to the American market is diminished by that amount. If the quantity allotted to that company be 37,500 horsepower there will remain 120,000 horsepower to be equally divided between the Ontario Power Co. and the Canadian Niagara Power Co., giving them 60,000 horsepower each. We believe this to be an equitable division of the power available and we join with Capt. Kutz in the recommendation that permits for the transmission of power to the United States be granted to:

Horsepower.

The Niagara, Lockport & Ontario Co. from the Ontario Power Co.	60,000
The Electrical Transmission Co. from the Electrical Development Co.	37,500
The Niagara Falls Power Co. from the Canadian Niagara Power Co.	60,000

Yours, very respectfully,

O. H. ERNST, *Chairman.*
 GEORGE CLINTON, *Member.*
 E. E. HASKELL, *Member.*

HON. W. H. TAFT,
Secretary of War.

REPORT BY CAPT. CHARLES W. KUTZ, CORPS OF ENGINEERS.

WAR DEPARTMENT,
 OFFICE OF THE CHIEF OF ENGINEERS,
 Washington, August 15, 1906.

GENERAL: 1. In compliance with the written orders of the Secretary of War, dated July 14, 1906 (copy attached marked A), and your subsequent oral instructions, I have the honor to submit herewith the following report upon the existing power situation at Niagara Falls:

2. The information called for by the Secretary of War concerns not only the power companies now diverting water on the American side, but also those on the Canadian side who are seeking through their associated transmission companies to import power into the United States. This latter information, being of more immediate importance, will be considered first.

3. The four Canadian companies applying directly or through their transmission companies for permits to import power are the Ontario Power Co., of Niagara Falls; the Electrical Development Co., of Ontario (Ltd.); the Canadian Niagara Power Co., and the International Railway Co.

The Ontario Power Co.

4. This company was incorporated by an act of the Dominion Parliament in 1887, and is not limited by its statutory rights to the production of any given amount of power. All its plans, however, are subject to the approval of the commissioners for the Queen Victoria Niagara Falls Park. The present approved plans were designed for the production of 180,000 electrical horsepower, using its Niagara River intake. In addition to its Niagara River rights, the Ontario Power Co. has a franchise for taking water from the Welland River, but beyond the purchase of a limited amount of land for right of way for the intake tunnel or canal this franchise has not yet been exercised.

5. The Niagara River plant as designed consists of headworks located above the first line of rapids, three main conduits or flumes 6,000 feet or more in length, leading the water through the park to a point below the Falls, thence by penstocks in tunnel through the cliff to the generating station in the gorge, and lastly a distributing station or transformer house situated on the high bluff directly above.

6. The headworks are constructed for the full development—that is, 180,000 electrical horsepower. Only one of the three main conduits has been built, and this has a capacity sufficient, it is claimed, to supply water to 6 generating units, 3 with a capacity of 10,000 electrical horsepower each, and the remaining 3 with a capacity of 12,000 electrical horsepower each. The valve chamber of No. 1 conduit is complete for 7 units except 3 valve motors, and rough excavation has been made for the valve chamber of No. 2 conduit in which an eighth valve has been installed, so that No. 7 can be operated either from No. 1 or No. 2 conduit. Excavation for the power house is complete for 8 units, the foundation and structure for 6 units. The central or main portion of the transformer house was designed and built for the control of 22 units, the number originally planned for the completed plant. The wings of the transformer house as now built have a capacity for 8 transformer sets, corresponding to 8 generator units. Four transformer sets are now installed. In addition, room is provided in the central part of the building for the passage of 4 additional transmission lines without change of voltage.

7. The books of this company show an expenditure of \$5,142,000, exclusive of rentals and rights, with \$400,000 due on uncompleted contracts. This total expenditure on power plant of \$5,542,000 will complete the installation of four units. The installation of two additional units, orders for which have recently been given, will require an additional expenditure of \$315,000. Of the four units now installed, three are ready for service, and the fourth lacks only a minor part to make it complete. The order for the fifth and sixth units calls for delivery within 12 months. The estimate furnished by the company of the cost of completing the approved design is \$6,500,000.

8. In addition to the expenditures of the Ontario Power Co. itself, there has been expended by the Ontario Transmission Co. nearly \$1,000,000 in real estate, transmission lines, stations, etc. For financial reasons a separate organization is maintained, but the company is practically identical with the Ontario Power Co. It owns an interest in the transformer house and owns all the transmission lines in Canadian territory. The Ontario Power Co. has Canadian contracts for about 6,000 horsepower, with the option on the part of the purchaser to increase the amount to about 13,000 horsepower. It has a contract with the Niagara, Lockport & Ontario Power Co. to deliver at the international boundary, for use in the United States, 60,000 horsepower, with the option on the part of the purchaser of increasing the amount to 180,000 horsepower. The latter contract is dated July 16, 1904, and provides that the 60,000 horsepower shall be delivered on or before January 1, 1907, with the option on the part of the purchaser of taking 60,000 additional horsepower January 1, 1911, and the third 60,000 horsepower on January 1, 1915.

9. The Niagara, Lockport & Ontario Power Co. is building switching and transforming stations and constructing transmission lines for the purpose of carrying out its contract with the Ontario Power Co. In furtherance of its plans the company has acquired a private right of way containing about 3,200 acres of land, with an unbroken strip 300 feet wide from the Niagara River to Lockport, a distance of 17 miles; thence 200 feet wide to the suburbs of Rochester, a distance of 55 miles; thence 100 feet wide from the suburbs of Rochester to Fairport, a distance of 12 miles. In addition, a similar private right of way owned in fee simple, 100 feet wide, has been acquired from Lockport southward through the suburbs of Buffalo to the Lackawanna Steel Co.'s plant, a distance of 27 miles. The company has erected two transmission lines from the international boundary to Lockport, each with a capacity of 30,000 horsepower. From Lockport to Syracuse a single line, partly over the right of way of the West Shore Railroad, has been completed, with a capacity of 10,000 horsepower, and a second line of greater capacity is under construction. On the double line from Lockport to Buffalo work is in progress, 60 per cent of the poles having been erected. Each of the Buffalo lines is to have a capacity of 30,000 horsepower.

10. The books of this company show an expenditure of \$2,785,000, of which \$1,200,000 is represented by right of way and \$1,162,000 is represented by construction. The Niagara, Lockport & Ontario Power Co. has actually executed contracts which call for the delivery within the near future of 6,000 horsepower, with provision for fixed increases at intervals varying from three months to three years, so that at the expiration of that time they will have a firm contract with their present customers for 14,240 horsepower, with options on the part of the purchasers which give them the right to increase the amount to 70,000 horsepower. The first of these contracts is dated June, 1905; three

others in the fall of 1905, one in March, two in April, and two in May, 1906. In addition the company claims to have contracts verbally closed for 13,000 additional firm horsepower, and negotiations pending for 25,000 firm horsepower, making a total of 52,000 horsepower, for which they hope to have a market in the near future. The optional amounts named in these contracts and negotiations aggregate 168,000 horsepower. At the time of the examination this company was actually transmitting to the United States 700 horsepower.

The Electrical Development Co.

11. This company was incorporated by act of the legislature of Ontario (5 Edward VII. ch. 12), for the purpose of developing, distributing, and selling electrical power and for other purposes, but its charter gives it no specific right to take water from the Niagara River or its tributaries. To this company was assigned an agreement which three citizens of Canada had entered into with the commissioners for the Queen Victoria Niagara Falls Park, by virtue of which it is authorized to take from the Niagara River water sufficient to develop 125,000 electrical horsepower. The amount of water for this purpose is computed to be 10,800 cubic feet per second.

12. In pursuance of this agreement, a plant has been designed and partially constructed that will be capable of producing the full amount of power authorized. The headworks are completed except for the removal of the cofferdam, while the wheel pit and tailrace tunnels are practically completed for the full development. Contract has been entered into for the construction of two-thirds of the power-house structure. The metal work of this part of the building is practically completed and the stonework 50 per cent completed. This will provide cover for 7 of the 11 units that are projected, each of which is designed with a capacity of 12,500 electrical horsepower. Only four generating units have actually been ordered. Two of the four have been delivered at the power house and are now being installed; one of the two was being made ready for test at the time of the examination, and unless some unforeseen accident occurs should be ready for service during the month of September, and the other three at intervals of six weeks to two months thereafter. The transformer house as constructed is for 5 units. One bank of three transformers is on the ground, a second bank was scheduled for shipment August 1, and the third bank August 15. By its headworks, wheel pit, and tailrace development the company is committed to the installation of 11 units, by its power house to the installation of 7 units, and by its contracts for machinery to the installation of 4 units.

13. The books of the company show an expenditure to July 1, 1906, on the power plant of \$4,500,000. The liabilities, incurred and unpaid, for completing the installation of 4 units are \$1,760,000, a total investment in plant of \$6,300,000. To complete the installation of 11 units would cost \$1,576,000.

14. This company has affiliated with it the Toronto & Niagara Power Co., organized for the purpose of transmitting power from Niagara Falls, Ontario, to Toronto. Its transmission lines, which, except for a short section, are completed, will have a capacity of 20,000 horsepower, and represent an investment of \$1,870,000, with \$750,000 required for completion. The demands on this company from Toronto and intermediate territory will probably aggregate between 30,000 and 40,000 horsepower. The Electrical Development Co. was organized primarily for the purpose of furnishing power to Canadian points, and its arrangements for selling power in the United States are in a more or less embryonic state. For distribution in the United States there was organized the Electrical Transmission Co. of Niagara Falls, a corporation chartered under the laws of the State of New York. This company at present is a mere holding company, keeps no books, and all the expenditures made in its name have been advanced by the Electrical Development Co. The books of the Electrical Development Co. show an expenditure on this account of \$246,000, which was used for the purchase of an interest in the Niagara Falls Gas & Electric Light Co., Niagara Falls Gas Co., and the Ablon Power Co., and for the purchase of real estate in Niagara Falls, \$40,000 being the amount of the last item. This investment, together with the holdings of the "Nicholl syndicate," a group of men who control the Electrical Development Co., gives control of these subsidiary companies to the power company.

15. The value of the properties thus controlled is approximately \$1,000,000. The Niagara Falls Electrical Transmission Co. also has an agreement with the International Railway Co. looking to the building of a bridge crossing Niagara River to be owned jointly by the two companies, across which it is proposed to

convey power that is sold by the Electrical Development Co. to the Niagara Falls Electrical Transmission Co. Negotiations with this company (I. R. R. Co.) also contemplate the granting to the transmission company of a right of way for its transmission lines over the right of way now being acquired by the railway company between Niagara Falls and Buffalo. This agreement with the International Railway has not yet assumed the form of a written contract. For carrying its transmission lines to Rochester this company proposes to use the right of way of the Buffalo, Lockport & Rochester Electric Railway. There is no contract to this effect, but as the Buffalo, Lockport & Rochester Railway is controlled by the Nichol syndicate above referred to, there is a community of interest. The Buffalo, Lockport & Rochester Railway is now under construction, the contract for grading a double-track road and for the construction of a single-track road having been entered into with J. G. White & Co., contractors, on May 14, 1906, at a cost of \$2,250,000. In addition to the above the Electrical Transmission Co. has acquired franchises in its own name in seven cities and towns in western New York for the sale and transmission of power, and through the Niagara Falls Gas & Electric Light Co. and the Albion Power Co. it controls 20 other such franchises. The Niagara Falls Electrical Transmission Co. has not executed any contracts for the delivery of power, but expects that its allied interests will require 17,500 horsepower. This expectation is based on the use by the Niagara Falls Gas & Electric Light Co. of 8,000 horsepower, though the amount now distributed by this company is about 100 horsepower. It also includes an estimate of 4,000 horsepower for the Buffalo, Lockport & Rochester Railway Co. This amount is based on a double-track road, while the contract for the construction of the road calls for only a single track at the present time. The company also submitted confidentially a list of corporations who had made inquiries with reference to the purchase of power from the Niagara Falls Electrical Transmission Co., together with the amount of power which they would probably require. This list aggregates 141,000 horsepower. It is needless to say that these inquiries involve no obligation on the part of either party.

The Canadian Niagara Power Co.

16. This company was incorporated by an act of the Legislature of the Province of Ontario in 1892, and is not limited by its statutory rights to the production of any given amount of power. All its plans, however, are subject to the approval of the commissioners for the Queen Victoria Niagara Falls Park. The present approved plans were designed for the production of 121,000 horsepower—that is, 11 units each with a capacity of 11,000 horsepower. Regarding one of these units as a spare, so as to put it on the same basis with the two companies previously described, the nominal capacity of the completed plant may be taken at 110,000 horsepower. This company also claims the right to double this plant, basing the claim on that clause of the original charter which limits its occupation of park lands to a length of 1,200 feet, the length of the power house now designed being 600 feet. As this right has in no way been exercised, and as it could not be exercised without the approval of the park commissioners, it need not be further considered.

17. This plant operates under an effective head of 141 feet, and for the development of 110,000 horsepower will require about 9,500 cubic feet of water per second. The headworks consist of a head canal with a fore bay 600 feet wide extending the whole length of the power house. The headworks, gates, wheel pit, and tailrace tunnel are completed for the full development. Five generating units are completely installed and a portion of the power house sufficient to cover them has been completed. The transformer station is also of sufficient size to accommodate 5 units. By its headworks, wheel pit, and tailrace development, the company is committed to the installation of 11 units; by its power house and transformer house to the installation of 5 units.

18. The books of the company show an investment to July 1, 1906, including liabilities incurred and unpaid for completing the installation of 5 units, amounting to \$6,250,000. For comparative purposes the value of the franchise, given as \$900,000, should be deducted, making the cost of the installation \$5,350,000. To complete the installation of 11 units would cost probably \$1,250,000.

19. This company is an allied company of the Niagara Falls Power Co., and save for the maintenance of a separate organization, is identical with it. It expects to market practically all its power through the Niagara Falls Power Co. or through the latter's agents. An underground conduit, with a capacity of 128,000 horsepower, connects it with the plant of the Niagara Falls Power Co.,

and cables with a capacity of 32,000 horsepower are now installed. A separate transmission line, capacity 25,000 horsepower, running for 16 miles along the west shore of the Niagara River to Fort Erie is under construction, together with the towers required to carry the cables across the river to Buffalo. For its transmission lines it has actually expended or is committed by contract to the amount of \$430,000.

20. It is now delivering 1,340 horsepower to Canadian tenants, who have the option of increasing the amount to 4,237 horsepower. At the present time there is no definite contract covering the sale of the power intended for delivery in the United States. This is explained by the intimate financial relations existing between the Niagara Falls Power Co. and the Canadian Niagara Power Co. At the time of the examination it was actually transmitting to the United States about 16,000 horsepower, but the combined load sheet of the two companies shows that the maximum amount thus far delivered to consumers is about 85,000 electrical horsepower.

International Railway Co.

21. This company is incorporated both in the State of New York and in the Dominion of Canada. In its first capacity it owns and operates all the electric railways in the city of Buffalo and adjacent towns, and the city of Tonawanda, Erie County, and the cities of Lockport, Niagara Falls, and the intervening territory in the county of Niagara, N. Y. Under its Canadian charter it owns and operates an electric railway along the shore of Niagara River from Chippewa to Queenstown. It also owns two bridges over the Niagara River, one just below the Falls and one at Lewiston, over both of which it has specific legislative authority to transmit power.

22. Its power plant is located in the Queen Victoria Niagara Falls Park, which plant was acquired when it acquired the property and franchise of the Niagara Falls Park and River Railway Co. In acquiring this railroad it paid for the equity therein \$733,000, and assumed a bonded indebtedness of \$600,000, making a total investment of \$1,333,000. It is claimed that this value was fixed largely by the power rights of the Niagara Falls Park and River Railway Co. At the time of its acquisition the power plant represented a cash outlay of \$141,000. Since that time further expenditures have been made upon its power house and equipment of \$125,000, so that the actual investment of this company in its power property at Niagara Falls, Ontario, is about \$265,000. With the machinery now installed 3,600 electrical horsepower can be generated, the effective head being 68 feet. Under its charter none of the power may be sold, and its use is limited to operating and lighting the railway, the Canadian division of which now uses from 800 to 1,200 horsepower. The company claims the right to transmit the balance to the United States for use on that portion of its system. This right, however, is questioned by the commissioners of the Queen Victoria Niagara Falls Park, and in their annual report for 1905 they say that they can not see their way clear to approve the plans for the transmission of this power through the park. The matter has been referred to the Dominion Government for decision. While it is understood that some progress has been made toward a solution, final action has not yet been taken.

23. The company, in its application to transmit power to the United States, asks for 8,000 horsepower, the intention being to enlarge the power plant for this purpose, at an estimated cost of \$150,000. Pending the determination by the Dominion Government of this company's rights, it is believed that no permit should be granted to them. Having in mind, however, the fact that they are now generating 2,500 horsepower more than they can use on the Canadian side, and the fact that the transmission of this power to the United States would result in an estimated saving of \$30,000 a year, it would seem equitable to reserve 2,500 horsepower for the present of the 160,000 horsepower for which permits can be granted, so that a permit for this amount could be issued in case the present controversy is decided in favor of the railway company.

24. The principal facts with reference to the three big Canadian companies are tabulated as follows:

	Ontario Power Co.	Electrical Develop- ment Co.	Canadian Niagara Power Co.
Expenditures to date in power plants, exclusive of rights and franchises.....	\$5,142,000	\$4,500,000	\$4,672,000
Amount required to complete existing contracts and orders.....	\$715,000	\$1,760,000	\$678,000
Amount required to complete plants to projected size.....	\$6,500,000	\$1,576,000	\$1,250,000
Effective head..... feet.....	180	135	141
Capacity of generating machinery actually installed, electrical horse- power.....	42,000		55,000
Nominal capacity of generating machinery installed and ordered, electrical horsepower.....	66,000	50,000	55,000
Nominal capacity of projected plants..... electrical horsepower.....	180,000	125,000	110,000
Amount invested and obligated for Canadian transmission lines.....	\$1,000,000	\$2,620,000	\$480,000
Probable sale of power in Canada..... horsepower.....	10,000	30,000	5,000
Amount of water required for machinery installed and ordered, in- cluding exciter sets—efficiency of the unit being taken at 76 per cent..... cubic feet.....	4,250	4,300	4,500
Amount of water required for plants as projected..... do.....	11,700	10,800	9,500
Actual expenditures by their associated American transmission companies.....	\$2,785,000	\$246,000	\$600,000

¹ The major portion of this amount has been expended in the construction of transmission lines intended for delivery of power to the United States distributing companies.

² This does not include any expenditures by the Nicholl Syndicate.

25. If these companies were limited in their output to the capacity of the generating machinery now actually installed and ordered, their investment in power plant, exclusive of franchises per horsepower developed, would be approximately as follows:

Ontario Power Co.....	\$89.00
Electrical Development Co.....	125.00
Canadian Niagara Power Co.....	97.00

If permitted to develop to the limit of their approved plans the investments in power plant per horsepower developed (nominal capacity) would be:

Ontario Power Co.....	\$88.00
Electrical Development Co.....	62.00
Canadian Niagara Power Co.....	60.00

These figures must be considered as only approximately correct, owing to the different methods of cost distribution used by the several companies. The aim has been to take the actual cost of the power plants, exclusive of rights, rentals, and franchises. Regardless of their absolute accuracy, or even their relative accuracy as between the three companies, they serve to show the extent to which the companies by their expenditures and contracts have committed themselves, and also the approximate losses which they will sustain if they are limited to the production of an amount of power less than their projected capacity. All three of these power developments were undertaken in good faith several years ago and long before the agitation in Congress which led to the passage of the present law, and there is no evidence that any of their subsequent transactions were made with the object of securing rights which they had not always intended to claim.

26. The total capacity of the generating machinery installed and ordered for the three plants is 171,000 horsepower. The probable demand in the near future from Canadian markets will not exceed 40,000 horsepower, leaving 131,000 horsepower for sale in the United States. The granting of permits for this amount would permit the utilization to its full capacity of all machinery now installed or ordered, but would not permit any further development and would not afford a reasonable return on the moneys now invested unless the prices to the consumers were measurably increased. In order that such relief as is now possible may be afforded, it is recommended that permits be granted for 157,000 horsepower, the maximum amount under the first limitation, less 2,500 horsepower reserved for the International Railway Co.

27. The conditions surrounding the development of the Canadian power companies differ so materially that an exact statement of their relative rights to the American market is not possible. The Niagara, Lockport & Ontario Power

Co., the distributing agent in the United States for the Ontario Power Co., has expended a large sum in opening up a new market. The Electrical Development Co. started primarily to develop the Canadian market, and its plans for the American market have not yet been fully matured, while the plant of Canadian Niagara Power Co. is virtually an addition to that of the Niagara Falls Power Co. Considering alone the investments in power plant, there is no apparent reason why any distinction should be made between the power companies in the amount of power which they should be permitted to send into the United States. While the projected development of the Ontario Power Co. is considerably greater than that of the other two companies, this apparent advantage is balanced by the fact that the other two companies are more fully committed by expenditures already made to the complete development. If the relative investments of the three transmission companies associated with them for distribution in the United States are alone considered, the claims of the Niagara, Lockport & Ontario Co. are unquestionably superior to those of the other transmission companies. As the object of the law is to restrict, directly or indirectly, the amount of water diverted, it has been suggested that some weight should attach to the fact that the Ontario Power Co. makes greater use of the water that it diverts than either of the other companies. Each of the companies, however, fully utilizes the head incident to its geographical location, and any distinction in the matter of permits based on relative natural advantages would appear to be unjust.

28. The Electrical Development Co. had for its primary object the furnishing of power to various points in Canada, as is indicated by the construction of its Toronto line, yet the demand for electrical power in Canada within the economical radius is so limited as to make it unreasonable to suppose that this company had given no thought to the marketing of a part of its power in the United States. The Electrical Development Co. is planning to sell between 30,000 and 40,000 horsepower in Canada, which is probably from 20,000 to 25,000 horsepower in excess of what either of the other two companies will sell in Canada, a fact which should receive consideration in fixing the amount to be transmitted to the United States. On the other hand, any greater discrimination against the Electrical Development Co., which is owned almost wholly by Canadian capitalists (the other two companies being owned almost wholly by Americans), may give rise to a feeling of resentment on the part of the people of Canada and tend to retard the negotiation of a treaty between the two countries concerning the preservation of Niagara Falls.

29. The applications for permits made by the transmission companies are as follows:

	Horsepower.
Niagara, Lockport & Ontario Co., from the Ontario Power Co.-----	90,000
Electrical Transmission Co., from the Electrical Development Co.-----	62,500
Niagara Falls Power Co., from the Canadian Niagara Power Co.-----	121,500

The application of the Niagara, Lockport & Ontario Co. is based upon the desire to secure a reasonable return on the investment already made, but considering the date named in its contract with the Ontario Power Co. for the delivery of the second block of 60,000 horsepower, i. e., January 1, 1911, and having in mind the fact that any production of power in excess of 60,000 horsepower means the construction by the Ontario Power Co. of a second conduit and a consequent expenditure of \$3,250,000, it is believed that a present limitation to 60,000 horsepower will not work undue hardship.

30. The application of the Electrical Transmission Co. contemplates the marketing of one-half of the total output of the Electric Development Co. Considering the situation of the latter company in the Canadian market and the limited extent to which the Electrical Transmission Co. has committed itself by its expenditures, a present limitation to 37,500 horsepower does not appear to be inequitable.

31. The plant of the Canadian Niagara Power Co. is intended to supplement that of the Niagara Falls Power Co., and a fair estimate of the rapidity with which its power will be marketed is found in the rate of growth in the past of the Niagara Falls Power Co. This has amounted to about 20 per cent in recent years, with a present output of both companies amounting to 85,000 horsepower. Assuming that the same rate of growth will continue, though in all probability it will be reduced owing to power which the other companies expect to market in this territory, it will be two or three years before the full capacity of the Canadian plant as now installed will be utilized. For these

reasons a present limitation to 60,000 horsepower will not, in my judgment, seriously interfere with its normal development.

32. If permits are granted for these amounts the Ontario Power Co. would be justified in installing a seventh unit as a spare, the Canadian Niagara Power Co. would be justified in installing two more units, one as a spare, making the nominal capacity of its plant 68,000 horsepower. The Electrical Development Co. would be justified in installing three more units, one of them a spare, making the nominal capacity of its plant 75,000 horsepower, half of which, the proportion asked for, it would be permitted to transmit to the United States. If each installs these units the relative investment in power plant, exclusive of franchise, per horsepower developed (nominal capacity) would be:

Ontario Power Co.....	\$82.00
Electrical Development Co.....	91.00
Canadian Niagara Power Co.....	87.00

33. Based upon what precedes, it is recommended that permits for the transmission of power to the United States be issued as follows:

	Horsepower.
Niagara, Lockport & Ontario Co., from the Ontario Power Co.....	60,000
Electrical Transmission Co., from the Electrical Development Co.....	87,500
Niagara Falls Power Co., from the Canadian Niagara Power Co.....	60,000
	<hr/> 157,500

In order that the various companies may proceed with this limited development, it is further recommended that permits for such amounts as may be authorized be issued without delay.

34. As to the question of granting transmission permits for amounts additional to the first 160,000 horsepower, it is believed to be the intent of the law to delay the issue of such permits until it is known what appreciable effect, if any, will be produced on the Falls by the diversion of the amount of water that will be used under the first limitation. If this interpretation of the law is correct, the granting of such permits will be a matter for the future, as it will be fully a year before the companies will be in a position to develop 160,000 horsepower, in addition to the amounts sold in Canada.

35. The information contained in this partial report was obtained from the parties interested and its important features verified by a personal inspection of the works and a general examination of the books and records of the various companies. These inspections and examinations were made July 20 to July 28, 1906, and descriptions of the power plants of the Ontario Power Co. (Appendix B), Electrical Development Co. (Appendix E), and the Canadian Niagara Power Co. (Appendix G), and of the transmission lines of the Ontario Transmission Co. (Appendix C), Niagara Lockport & Ontario Power Co. (Appendix D), and the Toronto & Niagara Power Co. (Appendix F), in greater detail than in the body of the report, are appended hereto. They were prepared by Mr. Earl Wheeler, E. E., who, with Mr. F. D. C. Faust, a representative of the Department of Justice, assisted in the examination. A photographic copy of a map of Niagara Falls, taken from a monograph prepared in 1904 by the Canadian Society of Civil Engineers, is also appended.

36. The preparation of that part of the report which concerns the diversion of water on the American side has been delayed by the nonreceipt of certain information, and will be submitted later.

Very respectfully,

CHARLES W. KUTZ,
Captain, Corps of Engineers.

Brig. Gen. A. MACKENZIE,
Chief of Engineers, U. S. A.

The CHAIRMAN. Is there any other gentleman present who desires to be heard briefly? Hearing no response, this committee will stand adjourned.

Thereupon, at 4 o'clock p. m., the committee adjourned until Tuesday, January 23, 1912, at 10 o'clock a. m.

COMMITTEE ON FOREIGN AFFAIRS,
HOUSE OF REPRESENTATIVES,
Tuesday, January 23, 1912.

The committee met at 10 o'clock a. m., Hon. William Sulzer (chairman) presiding.

The CHAIRMAN. The committee will hear this morning, Hon. Thomas Carmody, attorney general of the State of New York. Gen. Carmody, you may proceed.

**STATEMENT OF HON. THOMAS CARMODY, ATTORNEY GENERAL
OF THE STATE OF NEW YORK, ALBANY, N. Y.**

Mr. CARMODY. Mr. Chairman, I wish to thank you and the committee for the courtesy extended the State of New York in granting this hearing, so that the State could be represented, and to especially assure the committee of the grateful appreciation of this favor by the governor, who is particularly interested in the whole conservation proposition.

Our rights in this matter involved in the bill now before this committee, are somewhat intensified by the contemporary interest which the State of New York is taking in the conservation proposition. I need not tell you, I am sure, that for the purpose of formulating a policy, and for the purpose of asserting the rights of the State in hydraulic matters, the last legislature passed an act constituting what is called a conservation commission, with more particular reference to the administering of the surplus waters impounded by reason of the construction of the barge canal, and the impounding of waters in the streams and tributaries, for the purpose of feeding the barge canal. The proposition involved in the bill and in the administration of the powers under it, is at present somewhat crude in the minds of the officials of the State, but we do stand upon this proposition, and it is one that it seems to me is not fully recognized by the bill pending before this committee.

I have been shown two bills, one introduced by Mr. Smith, and the other by Mr. Simmons, both of which seem to proceed upon the right claimed in the National Government to control and distribute the water power in Niagara River. I contend that that is an assertion of a power that the Government does not have. The Government has only such powers as the Constitution gives it, and in respect to navigable streams—and this includes border streams—that right is limited to the control of those streams for purposes of commerce and navigation, and for military defense, neither of which purpose is asserted, and neither of which is furthered by the bills before this committee, or by any legislation which Congress has passed, bearing upon the Niagara Falls proposition.

Now, it will not take me very long to state the position of the State of New York, and it will not take me very long to furnish to this committee the authorities upon which the State rests in basing its contention for what it will ask for when we are through. The State claims to be the owner of the soil to the center of Niagara River, and consequently the owner of the water that passes over the American side of the Niagara River, subject only to the right of the National Government to control the waters of that river for the purposes of

navigation and for military defense. The right which the State owns in this river is no different, according to the decisions of the courts, from its right in rivers that are entirely within its borders, that are navigable, and the legal status of that right is so clearly established by the decisions of our courts that it is unnecessary to more than refer to them for the purpose of establishing its correctness. Now, the treaty between this country and Canada, under which this bill is apparently drawn, undertakes to exercise some national power, the extent of which I can not understand. I think we all understand that the Governments, the parties to that treaty, have the right to state their relative positions so far as the use and occupation of that river is concerned, for the purposes of navigation and for military defense.

That is alleged to be the purpose of the treaty, and there is nothing in the treaty that undertakes to carry out that power, which is the only power that our Government has to deal with that scheme. I am not assailing this treaty; I am just coming in a moment to what Congress is now asked to do under it.

The treaty states that it is passed for the purpose of settling disputes between the owners or claimants on either side of the Niagara River. Now, whatever the ownership of property on either side of the Niagara River may be, it rests, under the laws of the State, in either the State or some riparian owner, and is not a subject of national supervision or control. Now, the Burton Act, so called, undertakes to carry out specifically the powers that were intended to be conveyed by the treaty, by providing that we may take from the Niagara River a certain quantity of water—15,600 cubic feet per second. We say that that is a subject upon which the National Government has no right to legislate, except to go far enough to say that there has been released to the State of New York a certain quantity of water from our supervision and right of control for purposes of navigation and military defense; that when the Government has gone that far it has discharged its power and exercised the only governmental function which it possesses, the only power which it has over the waters of Niagara River, and under that bill you have stopped where we ask you to stop in whatever legislation you recommend, namely, that when it is specified as to how much water may be taken from the river on the American side, thereby releasing the control of the National Government to that point; then that must go to the party that owns it under the laws of our State and Nation, namely, the State of New York.

Mr. GARNER. General, let us suppose that some Member of the House should disagree with you as to the power or control over this water. What is your idea about the policy of the Federal Government stepping in and undertaking to say to a State how and under what conditions it shall regulate hydraulic power.

Mr. CARMODY. I say that is objectionable from two standpoints. In the first place it is the assertion of a power that does not exist, and it is undertaking to administer a policy that belongs to the State. It is made the right of the State in two respects, first, State ownership of said power, and, second, the right to administer that in trust for the common people.

The CHAIRMAN. That is fundamental.

Mr. GARNER. In reality it is an indictment against the State by the Federal Congress that it is not capable of conducting its own affairs.

Mr. CARMODY. Very truly that is so. The Burton Act goes further than that; it not only asserts the right to control the distribution of it, but to say who shall have it, and it provides that it shall only go to those owning the water power at the present time. In other words, it grants what, under the constitution of the State of New York, is an exclusive privilege. We are arguing against the folly of the National Government undertaking to exercise functions which it does not possess, and thereby invading the functions of the State, wherein the State has the means of administering, the right to administer, and a vital interest in the result.

Mr. FLOOD. What act does that?

Mr. CARMODY. The Burton Act.

Mr. FLOOD. The one that is on the statute books?

Mr. CARMODY. The one that is on the statute books now. We contend against the principle that the National Government has the right to distribute this water. Our position is that the National Government has the right to control the waters of Niagara River for purposes of navigation and for military occupancy, but for no other purposes; and where it does not restrict them for those purposes then the riparian rights are invoked, and those riparian rights include the right of ownership to the center of this stream and to the water that passes over it.

Mr. GARNER. What do you say to the proposition of the Federal Government having the right to formulate certain rules and certain conditions precedent to the taking of this water that the greatest amount of power may be derived from the use of it. For instance, I presume you will concede that the Federal Government would have a right to say that you could take only 20,000 cubic feet per second, and that it could designate the Secretary of War or some one else to see that that provision was adhered to. Could they go further and prescribe the engineering features of the plant in order to get the greatest power out of that 20,000 cubic feet?

Mr. CARMODY. Very clearly, they can not. Their function is simply as was pointed out, to decide how much we may take, that does not injure navigation. When they have decided that they have exercised the only power they have under the National Government, and every other right over that water is in the State of New York, or in some riparian owner, if any rights have privately been acquired to the use of the water. The right to limit the cost to the consumer, or to regulate the question of engineering, is one that belongs to the State government.

Mr. CLINE. Do you concede that the Federal Government has the right to establish any limitation upon the diversion? I think you do.

The CHAIRMAN. There is no question about that.

Mr. CARMODY. Oh, yes.

Mr. CLINE. It has the right to grant or withhold to any extent that meets its own discretion?

Mr. CARMODY. Yes; and that discretion——

Mr. CLINE. And would have the right to refuse any diversion at all?

Mr. CARMODY. Yes; in the exercise of this function. In other words, I think the proposition is more logically stated in this way,

that the State may continue to enjoy its riparian rights until the Government desires to exercise its authority for the purpose of navigation or military defense.

Mr. CLINE. The Government will reclaim it by simply asserting that no diversion shall occur?

Mr. CARMODY. Yes, sir.

Mr. CLINE. It is your position that while the Government would have the right to grant or withhold in the discretion of Congress—that the Government can not impose any condition upon its exercise.

Mr. CARMODY. I say it can not. The Government can only decide how much can be diverted, and that is the only control the Government has over it, and then the rights of the State are asserted to the further control, and that is fully competent to deal with the question you raise.

Mr. CLINE. I understood that that is your contention?

Mr. CARMODY. Yes; that is the contention. It comes to this point, further objection to the provisions of the Burton Act is idle, and I wish to assert it here—you are familiar with the provisions of this bill?

Mr. DIFENDERFER. Under the treaty, is the Government not morally bound to stop the pollution of international waters?

Mr. CARMODY. The pollution?

Mr. DIFENDERFER. Yes.

Mr. CARMODY. That, of course, comes under a different power of the National Government than the one we are discussing.

Mr. DIFENDERFER. It would have some control.

Mr. CARMODY. The two Governments would have the right to agree upon some sanitary policy of controlling that question of the pollution of the waters of boundary streams.

Mr. DIFENDERFER. If the Government should go further and infringe, as you possibly would say, upon the riparian rights of the State of New York in order to stop pollution, would you think they would have any power?

Mr. CARMODY. If it is a legal right, it must be founded upon some legal principle of Government.

Mr. DIFENDERFER. The State of New York, as I understand it, has perfect health laws, has it not?

Mr. CARMODY. Yes.

Mr. DIFENDERFER. Now, has the State ever made any exhaustive investigation of the waters of Niagara in regard to that question?

Mr. CARMODY. In what respect?

Mr. DIFENDERFER. In this respect, as to whether scenic beauty has been destroyed?

Mr. CARMODY. Oh, yes; that is a common topic of investigation and conversation and denunciation in the State of New York. It seems to be agreed by the populace that lives there, and by the great mass of people who go there, that there has been no diminution of its scenic beauty, and, as I am informed, there will be none, if the State of New York is permitted to divert the use of those 20,000 cubic feet per second. But no one will claim, I assume, that this Government has the right to legislate for the purpose of preventing and protecting and enhancing the scenic beauty of property that belongs to the States. That is not alleged to be the purpose in the bill. It would not be a proper subject of legislation, for it is not

in the Constitution. I know it has often been advanced, but I do not believe that in the face of the aesthetic sentiment, that anything will be done to decrease the glories of that stream, and we will all be glad to see something done, and perhaps we will close our eyes to the exercise of power, if it were a little arbitrary, if it would prevent any desecration of the Falls. Bear this in mind, that the State of New York has done and is doing much to preserve the beauties of the Falls. The sentiment that has grown up against the desecration of the Falls shows how the people estimate the importance of preserving for posterity the grandeur of that most noble of Nature's works.

Mr. FLOOD. The Government has exercised jurisdiction under the Burton Act for the past six years?

Mr. CARMODY. Yes, sir.

Mr. FLOOD. Have the power companies questioned the authority of the State of New York up to this time?

Mr. CLINE. The truth is that the State government has fully acquiesced in this assumption of power.

Mr. CARMODY. Apparently the State acquiesces by not asserting it, and we found that the same thing was attempted to be done elsewhere in the State, and I am informed in other places, namely, the assertion of the right on the part of the National Government to control the hydraulic power of the States. We have in the Hudson River the same proposition. There is a specific appropriation for the building of a dam in front of Troy, there having been one there for some time, where waters were impounded, and accompanying the passage of the act were reports from the engineers of the War Department, recommending that the riparian rights should be turned over to the National Government before the appropriation was made available, and incorporated in the appropriation was that condition that the appropriation is not available until the riparian rights have been exterminated, and the canal board undertook to do that by rescinding and canceling the existing leases for power. The present administration has taken a stand against that. They have revoked that resolution, and we stand upon this right, that the State of New York owns this water power, so that if there has been any acquiescence in the State of New York in that policy in the past, that is so no longer.

Mr. CLINE. Was that not made a condition of the appropriation to improve the river, provided certain rights should be restored to the Government?

Mr. CARMODY. Hardly that way, because it stated that a certain amount is directed to be used when the rights were exterminated—

Mr. CLINE. A conditional grant?

Mr. CARMODY. Yes. That is simply asserting what is asserted in this bill, that the Government has the right to control the hydraulic resources of the State.

Mr. GARNER. The Government has the right to put a limitation on the appropriation, for the purpose for which it is to be used?

Mr. CARMODY. Very true. I am not questioning the exercise of that power, but there has been a policy to acquire the hydraulic power.

Mr. GARNER. You contend that if Congress had directly passed an act ordering the cancellation of these leases it would not have had that power?

Mr. CARMODY. Yes. Congress has no such power.

Mr. GARNER. And that power was lodged in New York.

Mr. CARMODY. That power was lodged in New York. The State of New York can not surrender it. It is lodged in the people of the State of New York, and the Government holds it only in trust. It is a sacred right which belongs to the people, and we are dealing with something here, the principles concerning which can not be changed by any action taken here or elsewhere. Now, to get down to the point of my discussion here, to the assertion of the principle that I am maintaining, which I find is familiar to the members of the committee, I trust there is no lawyer who has examined the legal principle I have asserted, namely, that the—

Mr. CLINE. There is no need to recite authorities on that proposition.

Mr. CARMODY. Yes, sir.

Mr. CLINE. What relation do you bear to the State?

Mr. CARMODY. Attorney general, and in company with Conservation Commissioner Moore and Mr. Bacon, of the Attorney General's office.

Mr. FLOOD. Do you contend that the United States Government should not permit the Secretary of War to have supervision over this diversion in order to protect navigation?

Mr. CARMODY. I do not contend that the United States Government should not safeguard the releasing of its control in any way that may be proper. What I am contending against is the principle in that bill that we must ask the Secretary of War to give to us what belongs to us as a matter of law. He should be required, upon an application from the proper authorities of the State of New York, it seems to me, to release the amount permitted to be diverted. I would think that would sufficiently safeguard the rights of the National Government; that when the proper authorities of the State of New York apply for the use of the balance of the power, 4,400 cubic feet per second, which we ask you to grant up to the full limit of the treaty, that it shall be the duty of the Secretary of War to sign the permits, provided, in his judgment, it does not interfere with the uses of the National Government.

Mr. CLINE. Is his judgement final on that question.

Mr. CARMODY. I think it is. I think that his power must be arbitrary. It certainly can not be questioned by the State if he chooses to say, 'we need this for military defense or navigation,' even though that may not be so. We can not question it.

Mr. GARNER. Let me get a distinct understanding about that. Congress decides that 20,000 cubic feet per second can be used without injuring navigation.

Mr. CLINE. Fifteen thousand six hundred, in this case.

The CHAIRMAN. That is the amount of water on the American side now being utilized.

Mr. GARNER. Congress decides that 20,000 feet can be diverted without affecting navigation or the military defense and we lodge with the Secretary of War the power to grant a permit. Is it your contention that the Secretary of War should arbitrarily say he will not grant any of these permits for any of this water because in his judgment it would affect navigation or military defense?

Mr. CARMODY. I am arguing the opposite side of that question, because we claim we have the right to enjoy that water as a natural right, but the National Government has the right to control it for purposes of navigation.

Mr. CLINE. We do it through an act of Congress.

Mr. GARNER. Although the Secretary of War has the power to issue a permit, he would not arbitrarily fly in the face of Congress.

Mr. FLOOD. You are making a concession to the other side.

Mr. CARMODY. I am not here to question the right of the National Government to do anything it believes it is doing in the interest of navigation. When you have passed that point—

Mr. CLINE. When you make that concession, do you not minimize the rights of the State that you have been talking about?

Mr. CARMODY. Not at all.

Mr. GARNER. If I understand, your position is that Congress has the right to say whether there shall be one or twenty thousand cubic feet per second, but that after that the power of Congress ceases and the State's rights begin.

Mr. CARMODY. Yes.

Mr. CLINE. I think we clearly understand that. Here is my proposition: If you concede to the Federal Government the right to establish the amount of diversion there, basing it upon the proposition that navigation will be affected or that the security of the country may be involved—if you concede that proposition, then the Federal Government has the right to authorize the diversion of 1 cubic foot or 20,000 cubic feet; if the Government now has the right to fix the amount, is not the importance of your State rights reduced to a minimum?

Mr. CARMODY. You have already stated how much may be diverted. I am starting in where you have stopped.

Mr. CLINE. But the Federal Government can at any time revoke the Burton Act. Is not that true?

Mr. CARMODY. Yes; but you have got to fight the riparian owners.

Mr. CLINE. What rights have the riparian owners?

Mr. CARMODY. The right of ownership.

Mr. CLINE. But what does the right amount to, if it is so difficult or impossible of assertion as you say?

Mr. CARMODY. It is the right to enjoy, until you have deprived them of it. I do not see how you are going to hurt them. They are drawing power from the river. You may say there can not be any power taken from the river, but you have got to settle that other question in another tribunal.

The CHAIRMAN. The Government has made a treaty, which is the supreme law of the land, and that treaty provides how much water can be taken by the Canadian Government and how much by the United States Government. The question before the committee is, who shall have the right to dispose of that water power, and whether there shall be any limitations upon its disposition, so far as the price of the power to the consumer is concerned.

Mr. FLOOD. There is another question, as to whether the Government will permit the 20,000 cubic feet per second to be diverted.

Mr. CLINE. If diversion is permissible.

Mr. GARNER. Let me ask one question in connection with that. Suppose that Congress should decide that there should not be a single

foot of water diverted on the American side, and should pass a law directing that none should be diverted, which would naturally seriously affect the power companies, would they have that right?

Mr. CARMODY. They have no such right.

Mr. GARNER. They outline in a bill that it is for the purpose of preserving the navigation in Lake Erie and pass a law prohibiting the diversion of another foot of water; you must assume they would have that power. Then, the only remedy that those companies would have would be a claim against the United States Government for such damage as might have occurred.

Mr. CARMODY. Or some legal proceedings.

Mr. CLINE. These are revocable permits, and would the Government involve itself in damages for doing what it is authorized to do?

Mr. GARNER. Some of these companies have been there for years and years, and have been given permits.

Mr. CLINE. They claim they derive the power from these permits.

Mr. CARMODY. Not necessarily, I believe.

Mr. CLINE. I should not want to concede that the only power we have is from the permit.

Mr. CARMODY. I would like to read the bill which we present here. It represents the idea of the State of New York in regard to this concession. [Reading:]

A BILL To give effect to the fifth article of the treaty between the United States and Great Britain, signed January 11, 1909.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. In order to give effect to the fifth article of the treaty between the United States and Great Britain signed January 11, 1909: The United States hereby authorizes and permits the diversion within the State of New York of the waters of Niagara River above the Falls of Niagara, for power purposes, not exceeding in the aggregate a daily diversion at the rate of 20,000 cubic feet of water per second: *Provided, however,* That no water shall be diverted from said river at said point for power purposes except pursuant to written permits signed by the Secretary of War, who is hereby authorized and directed to issue such permits for the making of such diversion to said amount, to the State of New York, upon application therefor by its officials, thereunto duly authorized.

Said permits may be revoked by the Secretary of War at any time when in his judgment such revocation is deemed advisable for the protection of commerce or navigation or for military defense.

We contend that the bill recognizes the one right that the Government has and asserts the right that belongs to the State.

The CHAIRMAN. We will carefully consider the proposed bill.

Mr. FLOOD. The bill requires him to issue the permits, regardless of whether he may think that if he issues them they would be detrimental to navigation or the public defense.

Mr. CARMODY. He has the right to revoke them.

Mr. FLOOD. Suppose, before he issued them he thought that to issue them would be detrimental to navigation or to the common defense.

Mr. CARMODY. Of course you have the right—

The CHAIRMAN. In this proposed bill, as I understand it, he has the right to issue the permits.

Mr. CARMODY. He must issue them.

The CHAIRMAN. Please explain the last part of the bill?

Mr. CARMODY. That relates to the revocation.

Said permits may be revoked by the Secretary of War at any time when in his judgment such revocation is deemed advisable for the protection of commerce or navigation or for military defense.

You have given him the only authority he possesses by act of Congress. You authorize him to revoke permits.

Mr. FLOOD. If this proposed amendment should be enacted, the Secretary of War would be compelled to issue the additional permits notwithstanding he may believe that in doing that a radical injury to navigation might result. At present only 15,600 cubic feet are being diverted.

Mr. CARMODY. I should think that would be in the discretion of the Secretary of War.

Mr. CLINE. Unquestionably that is correct.

Mr. CARMODY. Therefore, we contend against the provisions now before you, which places in his discretion the arbitrary power to issue these permits, and thereby deny to New York its proper rights.

Mr. DIFENDERFER. As a matter of fact, General, there is not now diverted 15,600 cubic feet per second. It has been 13,800 feet.

Mr. CARMODY. Yes. I desire to state further that the rights of the State are in entire harmony with the other rights.

Mr. FLOOD. I do not so understand it, Mr. Difenderfer, from Gen. Bixby's statement.

Mr. GARNER. They were granted more, but only 13,300 feet are being diverted at present.

Mr. FLOOD. Eleven thousand on the other side.

Mr. CARMODY. We claim that, for the purpose of carrying out the policy of conservation which the State of New York has adopted, that you have the power of deciding how this power should go.

Mr. CLINE. I dislike to interrupt your argument, but how would you possess that power?

Mr. CARMODY. We have a conservation commission that now deals with the surplus waters that are impounded by the construction of the barge canal.

Mr. CLINE. Is that organized and operating?

Mr. CARMODY. Yes; some of the members are here. We do want to be permitted to exercise some control over the permits granted and to fix a maximum price to the consumers of that power. We say that if the franchise is granted by the State of New York, therefore the State has the right to limit the charge that the companies may make. We have no such right without contending against the principles which you have inserted in the Burton Act, and we have nothing to say about the manner in which that power, which is very important to us, is administered.

Mr. CLINE. I suppose the regulation of rights would be committed to your public-service commission?

Mr. CARMODY. Practically; but the administration of water power goes by specific provisions of our State law to the conservation commission.

Mr. GARNER. You have some idea with reference to the public opinion of your State in regard to the power of this commission to fix prices.

Mr. CARMODY. The conservation commission?

Mr. GARNER. The public-service commission.

Mr. CARMODY. I do not know much about it. It is certainly sustained by popular sentiment, and I think popular sentiment has asked to have it further extended to all corporations. I think the principle underlying it is popular and is growing in popularity, I believe. The control that comes in here, of course comes under another power of the National Government, and we have nothing to say about it. I am simply here to ask you to deal with us upon our natural rights and privileges as to this hydraulic question; but bear in mind that our interests are in harmony with those of every power company at the Falls. We are not going to confiscate anything; we are not going to deprive them of any rights they have by reason of the riparian ownership or by reason of the terms granted by the Secretary of War. We want these 4,400 cubic feet stripped of all these complications. We want you to realize that and to say to us, "You may administer it, with the right in the National Government to reclaim."

Mr. GARNER. The people are interested in the questions of whether they should be permitted to buy their power in Canada, and you are also interested in the question as to whether the Federal Congress shall fix the price, or your public-service commission?

Mr. CARMODY. Yes.

Mr. GARNER. You are also interested in the question about the conditions which shall be imposed upon power imported from Canada?

Mr. CARMODY. We are interested, but I do not think they should be in the same bill. The transmission of current comes under another power from the exercise of your power here. Here you are dealing with the assertion of your right to control navigable streams.

The CHAIRMAN. If it were not for the provision in the Burton Act limiting the amount of power to be brought into the State of New York to 100,000 horsepower, the Canadian Government—

Mr. CARMODY. The State of New York ought to be permitted to get a revenue the same as for any other franchise for this vast power which is being carried two-thirds the way across the State. We tax every other corporation, and we can not touch that, because you have said they can take it into our State and send it across the State, and charge the people as they see fit. You have prevented our control over matters that belong entirely to us.

I thank you, gentlemen, and shall be glad to answer any other questions.

Mr. LEVY. You claim that the Secretary of War shall be permitted to issue permits to exercise rights that belong to the State of New York?

Mr. CARMODY. I think he should be compelled to issue them.

The CHAIRMAN. To those designated by the State?

Mr. LEVY. That right belongs to the State of New York?

The CHAIRMAN. Yes.

Mr. CARMODY. When you say that we can take 20,000 cubic feet you have said all you can say. The rest belongs to us.

The CHAIRMAN. In your opinion, if Congress should pass this proposed bill submitted by you on behalf of New York, it will grant to the State of New York all it desires?

Mr. CARMODY. Yes. It may not be in proper form. I did not expect to represent the State here, but we got our views together and that represents them.

The CHAIRMAN. The State of New York, as I understand it, General, is in favor of taking the maximum amount of water on the American side that is provided for in the treaty?

Mr. CARMODY. Yes; we are.

The CHAIRMAN. In your opinion that would not destroy the scenic beauty of Niagara Falls?

Mr. CARMODY. We are very sure about that.

The CHAIRMAN. The State of New York has no objection to wiping out the limitation now imposed by the Burton law as to the amount of power coming in from Canada. All the State of New York wants is the power to regulate the price to the consumers.

Mr. CARMODY. Yes.

The CHAIRMAN. There being no Federal act prohibiting it, the State would have the right?

Mr. CARMODY. Yes.

Mr. GARNER. I just want to ask you, suppose the Burton Act was repealed—it expires on the 1st of March—and Congress did not pass any law with reference to the importation of power from Canada, they would have, under the general law, the right to bring in that power?

Mr. CARMODY. Not without the permission of Congress. They could not get in here and exercise a franchise, it seems to me, certainly not with the permission of the State of New York.

Mr. GARNER. There is no law on the statute books which I know anything about prohibiting the importation of power from foreign countries. When they get in, it would be under the jurisdiction of the State of New York, so if Congress does not say a word about it, New York would have just what it wants.

Mr. CARMODY. We would have this complication, that the Constitution says that no State shall interfere with interstate commerce, or make laws—

Mr. GARNER. Then your contention is that it would take an act of Congress to give your State jurisdiction?

Mr. CARMODY. That clears away that right.

Mr. FLOOD. Would it not be rather difficult to fix prices, when the public-service commission could not go into Canada and find out the cost of production?

Mr. CARMODY. You are asking me something that is in regard to an administrative matter, not legal.

Mr. CLINE. Suppose Canadian operators should refuse to disclose the information?

Mr. CARMODY. I think we would reciprocate—I think the law of reciprocity would be quite effective. We would say you can not transmit your power.

Mr. DIFENDERFER. Such a decision as that would be in favor of Canada. Canada would be benefited.

Mr. CARMODY. I would not want that kind of benefit.

Mr. DIFENDERFER. Would not the effect be this, that if they kept the electricity they manufactured on the other side, it would encourage factories being built there, because of the fact that they could produce power and sell it to these companies very much cheaper than on the American side?

Mr. CARMODY. It may be so.

Mr. DIFENDERFER. Then would it not be to their benefit to keep their power?

Mr. CARMODY. I think it is beneficial to them to come over and charge their present prices.

Mr. FLOOD. Have you considered the provision in the Smith bill in section 2, in reference to the limitation on the charge on power imported from Canada?

Mr. CARMODY. I have not given any particular attention to it, because I am not here to discuss the power question. There is another department of the Government whose territory I do not wish to invade, which deals with that.

Mr. SHARP. What would be the position of the State administration toward the governing of rates of this imported power, should that be consented to?

Mr. CARMODY. As I said, the public service commission is the department that deals with that. I have no authority to speak for them here. I do not know what their policy would be.

Mr. SHARP. Do you understand there would be competition between the power imported and the power on this side of the line?

Mr. CARMODY. I am not prepared to speak on that subject. I do not want to be put in the position of expressing the views of an administration for which I have no authority to speak.

Gen. GREENE. You have stated that the power from Canada is being transmitted two-thirds of the way across the State. Is your idea that a foreign corporation transmits that power?

Mr. CARMODY. It is transmitted from Canada, from a foreign country. I undertook to answer some questions here in regard to it. What I have tried to say is that the State of New York should have the right to regulate the transmission of that power across the State, and control the price of distribution.

Gen. GREENE. The State of New York has that right at this moment.

The CHAIRMAN. I think so—especially to regulate the price to consumers.

Mr. CARMODY. It would have, if the National Government—

Gen. GREENE. The power is transmitted two-thirds of the way across the State by a New York corporation. The corporation pays all the taxes which the present laws impose; it is subject at every point to the regulation of the public service commission: it has been before the public service commission in many matters and has always complied with its orders. Was there not a law, prior to the passage of the Burton Act, which made it illegal to bring power from Canada?

Mr. CARMODY. There was not any law, I believe. These people were enjoying that power on the Niagara River without asking any permission from the National Government at all.

Mr. FOSTER. Is not this about the situation, with reference to this question of the importation of electricity? You treat that as part of the foreign commerce over which Congress has control?

Mr. CARMODY. Yes.

Mr. FOSTER. That is, Congress has the sole power to regulate it?

Mr. CARMODY. Yes.

Mr. FOSTER. Now, when that electricity once reaches the hands of the importer; that is, once reaches the consignee on your side of the

line, then does not the authority of Congress absolutely cease, without any law?

Mr. CARMODY. It certainly does.

Mr. FOSTER. So that if a New York company imports it from Canada, we have the right to regulate the importation of it, but just as soon as it reaches your New York company, then, without any law on the subject, our authority ceases. It is analogous, is it not—

Mr. CARMODY. The only difference comes when you go further and undertake to say to the State of New York, as you have said to this power company, who shall have that privilege, then we say you are going beyond the powers of Congress, and you are invading the rights of the State.

Mr. FOSTER. My point is that it ceases to be foreign commerce as soon as it reaches the hands of the consignee on your side.

Mr. CARMODY. We should be permitted to regulate its transmission.

Mr. FOSTER. We can not take it away from you.

Mr. CARMODY. You may have no right to take it from us, but I am arguing against your undertaking to do something here which you have not any power to do.

Mr. GARNER. I understood the Attorney General to contend the only reason why Congress should pass any law touching the question of the importation was because of the danger that a Canadian company would bring across the power and deliver it in this country, and it being interstate commerce the State of New York would not have any control over it.

Mr. CARMODY. Yes.

Mr. FOSTER. My point is that as soon as it reaches the consignee in the State of New York we lose control over it, unless it goes outside the State of New York. It is analogous to this liquor question that we have with us always like the poor.

Mr. GARNER. To illustrate then, take a concrete proposition. Suppose a power company in Detroit, Mich., should undertake to carry power into New York, or a power company in Canada should come across the line and take it into New York, it would be interstate traffic which the State of New York could not reach, and therefore it is necessary for Congress to turn over this power to regulate the prices and the conditions of interstate traffic in this power to the State of New York.

The CHAIRMAN. General, have you concluded?

Mr. CARMODY. That is all I care to say, unless there are some other questions.

Mr. BROWN. Simply to enforce attention to that which I assume to be a well-known fact, do you not understand that all the distributing companies on the American side, including the companies that take from the Ontario company, all the distributing companies, the companies that deal with the consumers on the American side—that those are American companies?

Mr. CARMODY. You are speaking about the water-power companies?

Mr. BROWN. Those are New York companies?

Mr. CARMODY. Yes; those on this side are.

Mr. BROWN. Those on this side which receive power from Canada—they deal with the consumers—they are New York companies

upon this side who take power from the other side. Therefore, would it not be true that as to distribution, rates, and everything else between the distributing company and the consumer, the State of New York would have the power to regulate the rates?

Mr. CARMODY. The State should have the power.

Mr. BROWN. Does it not have it without any act of Congress?

Mr. CARMODY. It would have it, but an act of Congress would seriously interfere with that power.

Mr. BROWN. Is it not your idea if Congress should attempt to interfere with this importation, in giving to certain particular specified companies the right to import, it would be worse for the State of New York as though Congress said nothing, because it might work out as an interference with New York's rights?

Mr. CARMODY. Congress has the right to regulate it under the power to regulate interstate commerce.

The CHAIRMAN. Mr. Moore, one of the conservation commissioners of the State of New York, is here. We shall be glad to hear from Mr. Moore.

Mr. MOORE. The attorney general has spoken for the conservation commission.

The CHAIRMAN. Very well, then we will hear from Hon. Clark H. Hammond, corporation counsel of Buffalo.

STATEMENT OF MR. CLARK H. HAMMOND, CORPORATION COUNSEL, BUFFALO, N. Y.

The CHAIRMAN. You may proceed, Mr. Hammond.

Mr. HAMMOND. Mr. Chairman, I was sent down here to represent the city of Buffalo by a unanimous resolution passed by our board of aldermen yesterday. That is the only excuse I have for being here.

My position in coming down here is one of wanting to learn and find out. I do not know that there is anything I can say that will be of any particular benefit or use to your committee. Congressman Smith and I had a talk last Sunday in Buffalo and he asked me what some of my experiences had been with regard to the public service commission in matters where I represented the city, and I was very glad to give him any information I had, and he thought perhaps it would be of some benefit to this committee, as I understood him, to give these facts to the committee.

I have not made an examination, I would like to say, of the law; I have not had the opportunity since the matter was brought to my attention. But I do know this; I have understood from Congressman Smith that there was some claim made to your committee that it was not necessary to have any Federal control of this matter, because of the fact that the public service commission had ample authority and control.

Now, it is the furthest thing from my thoughts to say anything detrimental to the public service commission of the State of New York. They are a very excellent commission, and very excellent in the different matters I have had before them. But in 1910 we appeared, at the direction of the city, with a committee appointed from the chamber of commerce, before the railroad committee in the Legislature of the State of New York for the purpose of having the public-service commission law amended in order to give that commission

further and greater power, and we are in a position now that we have not a bill under which the public service commission of the State of New York acts that is adequate to reach all cases, so that we wish it was greater in its scope and conveyed greater powers upon the commission than it does convey.

I will give some illustrations. An application was made for the consolidation of the natural gas companies. Those companies—some of them include at present companies outside of the State of New York, and it developed on the hearing before the public-service commission that to-day 77 per cent of the natural gas that comes into New York State and is distributed throughout Buffalo and different cities comes from the State of Pennsylvania. What is the situation? Just as has been mentioned by some of the members of your committee, the public service commission's power stops at the State line. In other words, it was brought out, and the commission agreed with me on that proposition, in the argument of the matter, that if the consolidation went through, and if the New York State companies were consolidated and they took gas from a Pennsylvania corporation, all control was lost to the public service commission of the State of New York over these Pennsylvania corporations, except where they supply gas in the State of New York they could regulate the business in the State of New York.

Another illustration: We have an investigation on at the present time in the city of Buffalo with regard to rates for electricity. I have made this discovery—and if I am not correct, I will be glad to be corrected—that is, that under a public service commission law of the State of New York a complaint can only be made by the mayor of the city or by 100 citizens to the commission against the company that is distributing, with whom the consumers of the city do business. Now, the generating company at the Falls transmits that power to the city line, and the distributing company takes it at the city line at a cost of about \$25 a horsepower and distributes it. When I am getting this investigation ready, I find that I am up against a stone wall, and that is that we can not investigate that.

The CHAIRMAN. Do you think the public service commission of the second district of the State of New York has not sufficient authority?

Mr. HAMMOND. Absolutely. That also refers to the first district. I say there is no provision that I can find in the law of New York which gives either one of those commissions, upon complaint made, a right to investigate. That brings me to this proposition. There is a clause in the law that does permit the public service commission, on its own complaint, to investigate. So that, although the mayor of the city or 100 citizens can not make a complaint against this company generating power, the public service commission can. What do I find that situation to be? In the gas investigation which I went through, and in the natural gas consolidation upon which I appeared, we found that the public service commission of the second district states this to be their position, that the public service commission can not, although it may have the power under the public service commission law to investigate on its own motion, that it can not do it, for these reasons: First, because they have more work than they can possibly take care of with the complaints made. Second, they have not funds to do it with, although the Legislature

of the State of New York has been very generous and has given them a great many thousands of dollars, yet it is a practical impossibility for them to hire experts and engage men to make such investigations, and it can not be done. That is the statement of the chairman of the commission.

Mr. DIFENDERFER. Did he not write to a body of men—I think 135—who petitioned him that it would be impossible to do anything during the year 1912?

Mr. HAMMOND. He did; yes, sir. That is why I said I would be glad if the board of aldermen would direct me to come down here and tell you that we think it is generally understood—

The CHAIRMAN. Can not the Legislature of the State of New York remedy the matter?

Mr. HAMMOND. They can remedy some, perhaps, but they can not remedy the situation I ran up against in the natural-gas case.

The CHAIRMAN. Why?

Mr. HAMMOND. Because New York State has not the power to go beyond its State line. That brings me back to the proposition as to why we say, if it is possible to do it, the people of the city of Buffalo say to this committee, if we can possibly get any rights and have any power, let us have it.

Mr. GARNER. If Congress should provide for the importation of this power from Canada and should also provide that when the power is imported it would turn it over to the laws of the State of New York to be controlled, would that answer the purpose?

Mr. HAMMOND. No, sir.

Mr. GARNER. If you had a law authorizing you to control the companies from Pennsylvania, for instance, investigate the companies from Pennsylvania when they come into the State of New York, would that not be sufficient?

Mr. HAMMOND. Has the State of New York that power?

Mr. GARNER. If it could be given to you. This is a power that can be given to you.

The CHAIRMAN. Do you mean to contend, as a legal proposition, that when that power comes into the State of New York, the State of New York, through some of its agencies, has not the right to regulate it?

Mr. HAMMOND. I said expressly in my statement, that so far as the power and the gas coming into the State of New York are concerned, the public service commission has the right to control whatever is brought in, but their power stops at the State line, so far as the Pennsylvania corporation is concerned.

Gen. GREENE. I would like to ask what power the National Government can give to the public service commission of the State of New York that the Legislature of the State of New York can not give.

Mr. HAMMOND. I do not say it can give any. I do say that the National Government has powers that the State of New York has not got.

Gen. GREENE. Over the transmission of gas and electricity?

Mr. HAMMOND. Yes, sir; absolutely.

Mr. CLINE. Define those powers, if you please.

Mr. LEVY. What is your position here, in favor—

Mr. HAMMOND. My position is to give this committee, at the request of Congressman Smith, what light I have as to what the people

of Buffalo want, and we want all the power that can be had, all the water that can be diverted under this treaty to-day.

Mr. LEVY. Then you are weakening your proposition when you say the State of New York has no authority. I thought your argument was entirely for the benefit of New York. It seems to me you weaken your proposition when you say the public service commission has no power.

Mr. HAMMOND. I can not help whether I weaken my position or not. I have given you the facts.

The CHAIRMAN. What the people of the city of Buffalo want is cheap gas and cheap power.

Mr. HAMMOND. And to have the companies that supply it get a reasonable and fair return on their investment, and to be properly regulated.

The CHAIRMAN. Is not the public service commission organized for that very purpose? Your contention is that the public service commission is not doing its duty?

Mr. HAMMOND. No, sir; I do not say that at all. I say the public service commission is very efficient. I think it is doing its duty as far as it can, but it has human limitations.

Mr. FLOOD. And constitutional ones, also.

Mr. HAMMOND. Yes, sir.

Mr. FLOOD. You say the commission is limited by the character of these companies?

Mr. HAMMOND. I am against that proposition. Suppose some of this power is taken from the Canadian company. What power has the public service commission of the State of New York got to go into the books of the Canadian company?

Mr. FLOOD. So that you think the regulation and control ought to be vested in the National Government?

Mr. HAMMOND. Absolutely.

Mr. GARNER. What power has the National Government to go into Canada any more than the State of New York?

Mr. HAMMOND. My answer to that proposition is that, as I said in the beginning, I have not studied these questions as the Attorney General has, but I do want to call the attention of the committee to the fact that we need it, and we want it if we can get it.

Mr. LEGARE. Want what?

Mr. HAMMOND. We want the Federal Government control over these companies, so that we can investigate, and have an investigation, and not be stopped at some place because the public service commission can not go on and do certain things.

Mr. LEGARE. You mean the companies that transmit the power to the United States?

Mr. HAMMOND. Yes. One of the members spoke about Michigan. Suppose the city of Detroit transmitted their power down to Buffalo. I can not use any better illustration than that. What power has the public service commission of the State of New York got to inquire about that company? It could not begin to find out anything about that. If we had Federal control, that would step in and take the place where we can not cover it by the public service commission of New York.

Mr. GARNER. But Congress might pass some kind of law giving a commission, a national commission, the right to regulate interstate

commerce in gas and electricity, but I can not see where we can reach the Province of Ontario. That is all we have got to deal with in this instance. We are now talking about the importation of power from Canada, and we would not have jurisdiction of a proposition to create a commission to regulate prices—to regulate prices of interstate commerce.

Mr. HAMMOND. My answer to that is, that they have in Canada, they have the hydroelectric commission. You have probably heard of it. It was my pleasure last week to go through a part of the power plant and substation of that commission. If we can not get satisfactory rates from these power companies, if it is deemed feasible to go into the proposition that the Canadian Government has with that commission, and we want to take in Cleveland and Detroit, and have that arrangement, how are we going to do it without some Federal legislation?

I am here to give you what our experiences have been and to tell you what our wants are. If you can figure it out, well and good; if it can not be done, we have to be satisfied. We do want, in Buffalo, the right and control that can be exercised under the interstate commerce clause, or any clause, so that when we endeavor to find out what is a reasonable price for electric power, we will not be stopped by the State line.

Mr. FLOOD. How many companies furnish power in Buffalo?

Mr. HAMMOND. Two companies, Buffalo General Electric Co., that furnishes lighting, and the Cataract Co. We claim that they are absolutely one and the same company, and I certainly am going to try to prove that before I get through with this investigation.

Mr. FLOOD. In other words, they have two companies, where one ought to be doing the work.

The CHAIRMAN. You believe there is a community of interests?

Mr. HAMMOND. Yes.

The CHAIRMAN. No competition between them?

Mr. HAMMOND. No competition between them.

The CHAIRMAN. Both New York companies?

Mr. HAMMOND. Both New York companies?

The CHAIRMAN. Can not the public service commission remedy the matter?

Mr. HAMMOND. No, sir. The answer goes right back again to this proposition. They get their power from a generating company at the Falls, and the public service commission—we have no power under the public service commissioners' law to file a complaint against that company.

Mr. TOWNSEND. Your complaint is against the company that supplies power to the consumer?

Mr. HAMMOND. Yes, sir.

Mr. TOWNSEND. What is to interfere with your approaching an investigation of that matter, ascertaining all the facts, whether the rates are excessive or not, whether the service is adequate, and then imposing such regulations upon those companies as would be sufficient? You have no interest in the generating company?

Mr. HAMMOND. Have we not?

Mr. TOWNSEND. I think not.

Mr. HAMMOND. Here is the way it appeals to me, from investigations I have made in these other matters. The distributing com-

panies will come in and say we have a contract with the generating and transmitting company, or the transmitting company to pay them \$25 a horsepower. To illustrate, I will put it that way. Suppose they say they have a contract to get power from a generating and transmitting company at \$25, at the city line. There is nobody else they would get their power from, because they are tied up with a contract. The public service commission, as I read the law, can only say what those companies are entitled to charge in order to make a reasonable return on the investment, allowing them their contract price that they get it for from the company who generates it.

Mr. TOWNSEND. I do not think the contract would be controlling at all.

Mr. HAMMOND. I do not think so.

Mr. TOWNSEND. I do not think it would be even persuasive in the presence of testimony in regard to the price charged for power on the Canadian side by the transmitting company.

Mr. HAMMOND. But that price, \$9.40, is not transmitted to the city line?

Mr. TOWNSEND. It is the same character of power that is transmitted.

Mr. HAMMOND. How are you going to supply that intervening lapse? You can not take the price at the Falls and say it is only worth that price at Buffalo. We can not go into the cost of transmission. That is the answer. Under the public service commission law we have no right to file a complaint against that company, and the public service commission is the only one to do it, and they say they can not do it.

Mr. TOWNSEND. Mr. Hammond, you said a moment ago in answer to a question that there is an absolute monopoly?

Mr. HAMMOND. That is what we claim.

Mr. TOWNSEND. Are there not laws that can give you power outside the laws of the public service commission?

Mr. HAMMOND. Yes; I might start in, but I would never see the finish of it.

Mr. CLINE. It is not a defect in your methods of procedure, if that is true?

Mr. HAMMOND. Suppose I can not prove there is a monopoly? That does not remedy the situation.

Mr. TOWNSEND. I did not have the advantage of hearing the first part of your presentation. I did hear you say, however, that there was a foreign company that transmits power to the city line and then turns it over to a distributing company. Am I right?

Mr. HAMMOND. Yes, sir. Let me correct that. It is not a foreign company. They generate—it is a New York State corporation, a corporation of the State of New York.

Mr. DIFENDERFER. They generate it and transmit it to the city line? What is the name of that company?

Mr. HAMMOND. The Niagara Falls Power Co.

Mr. TOWNSEND. The public service commissioners can investigate, then, absolutely the distributing company in Buffalo?

Mr. HAMMOND. Yes, sir.

Mr. TOWNSEND. They can also, so far as the transmitting apparatus is within the territory of the State of New York, investigate that?

Mr. HAMMOND. That is where I differ with you.

Mr. TOWNSEND. It is within the State of New York.

Mr. HAMMOND. I understand, but how are you going to get that corporation before the public service commission?

Mr. TOWNSEND. That is a corporation that takes at the boundary line and transmits it to the city line?

Mr. HAMMOND. A corporation from the Falls to the city line.

Mr. FOSTER. Congress can not help you in that.

Mr. HAMMOND. I am not sure about that.

Mr. GARNER. Let us suppose a case. Suppose that the public service commission in New York had plenty of time and plenty of clerical assistance, and employed experts under them, could they not go into the question of the cost of the power company's transmission from Niagara Falls to the city of Buffalo and determine whether or not it was reasonable, and upon its own complaint?

Mr. HAMMOND. They could.

Mr. GARNER. Then how do you expect Congress to assist you in doing a thing that you say can not be done on account of inefficient machinery in your own State?

Mr. HAMMOND. The answer to that is that I have thought that proposition out; and you ought, it seems to me, regulate the matter of the transmission of power between States, just as in the case you mentioned—in the case of Detroit.

Mr. GARNER. That is an entirely different question.

Mr. HAMMOND. Why is it different?

Mr. GARNER. Just a moment. We have under consideration here a question of the importation of power from a foreign Government.

Mr. HAMMOND. Yes.

Mr. GARNER. The question of regulating rates and controlling power between the States is entirely another question.

Mr. HAMMOND. I understood that you had that in this bill.

Mr. GARNER. I do not know of any provision here creating a commission to control the power in interstate commerce, either electricity or gas power.

Mr. HAMMOND. I understood there was something of that kind in this bill. If I am wrong on that, all right. I understood the Attorney General to say that it can be done. I say it should be done by a bill.

Mr. LEGARE. Mr. Hammond, are not these domestic corporations doing business in the State of New York?

Mr. HAMMOND. What do you mean by "these"?

Mr. LEGARE. These generating companies.

Mr. HAMMOND. The distributing companies are. The generating companies—

Mr. LEGARE. Then you admit that the people of New York have a right to regulate these domestic companies?

Mr. HAMMOND. I assume they have.

Mr. LEGARE. You will also admit that the State of New York and the municipal government has the right to fix these rates?

Mr. HAMMOND. To regulate these rates; yes, sir.

Mr. LEGARE. Would you be willing to turn over this authority to the Federal Government, the authority and power which the State and your municipal form of government have of fixing these rates,

and would you be willing to turn it over to the Federal Government entirely?

Mr. HAMMOND. I am not here to speak on that subject.

Mr. LEGARE. Yes, you are.

Mr. HAMMOND. Just let me answer.

Mr. LEGARE. I understand that is what you are asking for.

Mr. HAMMOND. I am not here to speak upon that question, because the Attorney General, as I understand, represents the State of New York. What I do say is that where we find the public-service commission's law of the State of New York ineffective, we do want Federal control.

Mr. LEGARE. You are willing to turn this control over to the Federal Government entirely?

Mr. HAMMOND. I do not say that.

Mr. LEGARE. That is the only way you can do it.

Mr. HAMMOND. I do not agree with you on that.

Mr. LEGARE. Is there any complaint against these rates?

Mr. HAMMOND. There is.

Mr. LEGARE. By whom?

Mr. HAMMOND. The city of Buffalo.

Mr. LEGARE. In what way?

Mr. HAMMOND. By complaints filed with the public service commission of the State of New York.

Mr. LEGARE. There have been complaints filed?

Mr. HAMMOND. There have been complaints filed, and the answers are filed.

Mr. LEGARE. I understood that no complaint had been filed.

Mr. HAMMOND. I filed the complaint; it had my name on it.

Mr. LEGARE. When was that done?

Mr. HAMMOND. The day before the last election. I was not up for election. I was elected two years ago and my time is not out, so that the filing of the complaint the day before election had nothing to do with the situation at all. I had already served two years; I have still two years more to serve. It was not filed before because the mayor of the city of Buffalo had the complaint and kept it a year and four months. I had drawn it, and he brought it out to me the day before election, and he said he wanted it filed. He was elected two years ago.

Mr. LEVY. I can not make out yet what you are here for.

Mr. FLOOD. He wants some Federal control over the importation of power from Canada.

Mr. LEVY. I understood Buffalo sent you here.

Mr. HAMMOND. That is right.

Mr. LEVY. Do you indorse the Attorney General's remarks? ..

Mr. HAMMOND. Mr. Levy, you will have to pardon my weakness, but I said a while ago that I finally wanted to get to that proposition. I will be very glad to take it up now.

Mr. LEVY. Do you indorse the Attorney General's argument here to-day?

Mr. HAMMOND. I am not here for the purpose of indorsing—

Mr. DIFENDERFER. I do not think this gentleman is here to be badgered.

The CHAIRMAN. Proceed with your argument.

Mr. HAMMOND. As I have stated, by reason of the situation developed in Buffalo; if it can be done we feel that there should be

some Federal control to regulate the transmission of power between the States, and also, if possible, to overcome any defects existing in the New York State public service commission law.

Mr. SHARP. In a word, your contention is that whereas the people of Buffalo are thoroughly convinced that there is no honest competition there, you are at sea as to the best way to compel reasonable rates, either under the State or national law?

Mr. HAMMOND. That is it exactly. And I filed my complaint with the hope of accomplishing that result. The public service commission say they can not investigate this transmitting and generating company. They are given that power, but they say they can not. They say they have not the funds and that they have more work than they can do to take care of cases where complaints have been filed.

Mr. SHARP. One further question. I would like to know, for information, what reasons you have for believing that the rates are excessive and that there is no competition.

Mr. HAMMOND. As compared with statistics we have received from other cities and States the information contained in reports filed with the public service commission by the electric companies.

Mr. SHARP. Do they get the power from water power or from steam?

Mr. HAMMOND. They get their power from water power, although it may be one of the disputed questions—

Mr. SHARP. I mean in other places?

Mr. HAMMOND. I understand they get it from the Falls and they transmit it to the city line.

Mr. SHARP. Do those other places get it from water power, which is supposed to be much cheaper?

Mr. HAMMOND. Yes, sir; like the hydroelectric commission; it gets it for \$9.40 at the Falls and transmits it at a great deal less than what we pay.

Mr. DIFENDERFER. In fact, the price is \$12, is it not?

Mr. HAMMOND. My information is that it is \$17.45 in Toronto, and \$18.55 in Hamilton, as against \$30 in Buffalo.

Mr. SHARP. I refer to other places in this country, on this side.

Mr. HAMMOND. That is right; we have also made investigations there.

Mr. SHARP. Is that generated by water power or steam?

Mr. HAMMOND. I understand where it is generated by steam it is supplied at less cost.

Mr. SHARP. Does part of this cost come largely from the number of distributors, there being three different agencies?

Mr. HAMMOND. That is one.

Mr. SHARP. Is there any way of controlling that?

Mr. HAMMOND. No way as to the generating and transmitting companies.

Mr. SHARP. Have you any evidence that there is an identity of the personnel of the two companies, either in the board of directors or the stockholders?

Mr. HAMMOND. Yes, sir; we have that.

Mr. SHARP. Do you believe that is true?

Mr. HAMMOND. I believe they are all controlled by the same interests, and in fact, their representatives say that the officers are the same. We are talking about the distributing companies.

Mr. SHARP. Are they connected with the other companies who furnish power to them for distribution, reaching to the original company that takes power direct from the Falls?

Mr. HAMMOND. That is my information. Each of the distributing companies in Buffalo is either controlled by the transmitting company, or they have a large amount of stock in the company, so that they have control.

Mr. DIFENDERFER. Is it not a fact that the president of one company is the vice president of another?

Mr. HAMMOND. That is true.

Mr. SHARP. Just one more question. The other day some reference was made by one of the speakers who I thought was very well qualified to speak. He said that one of these companies had as one of their assets certain political standing in the State, and he mentioned some of the former statesmen who were in touch either with the commission or the companies. Do you think there is anything in that—that there is a political asset as well as a property asset?

Mr. HAMMOND. That I could not say. My investigations have not led me to that.

Mr. SHARP. You do not know anything about that?

Mr. HAMMOND. I do not know anything about that.

Mr. DIFENDERFER. I would like to know what the price of power in Buffalo is as compared with other cities in New York that receive this same character of power.

Mr. HAMMOND. These matters of power prices are very intricate and complicated affairs, I find. In a general way I have found that Buffalo is paying more than Lockport or other places that are near Buffalo.

Mr. DIFENDERFER. Can you state what it is in Lockport?

Mr. HAMMOND. I can not. I have understood that it is lower. Gentlemen who are here can give you those prices absolutely. I do not like to say what they are when I am simply giving you my impressions in a general way.

What the city of Buffalo wants is also more power granted to the State, so that we can have the benefit of having the entire amount of water that is available and feasible to be diverted under this treaty. We would like to have absolutely stated in this bill the amount of water diverted and used, and I care not, and the people of Buffalo care not, whether our learned Attorney General is correct and that it should be done by the bill giving the State the power to regulate and control and take care of that matter or whether it be done by the Federal Government, if Congress has that power. That is a matter I have not gone into. But we do say, whichever way your committee here determine is proper, we do want to have that water power available, so that if the people in the State of New York and the different municipalities within and outside the State want to have some grant made by the State of New York, if it is necessary, in order to put into operation a proposition somewhat similar to the hydroelectric commission of Canada, that that can be done. That comes to the proposition as to why I am here. That is one proposition we want.

Mr. LEVY. That is what I want.

Mr. DIFENDERFER. You would not favor giving this power to these two companies that are generating?

Mr. HAMMOND. I assume they should be put under a proper control. I would not take it away from these companies if they are justly and fairly entitled to it, and it can be reasonably exercised by power of control over them to see if it was properly used; but I do say that any power taken should be controlled by some authority—I do not care whether it is the State of New York or the Federal Government—I believe it should be used most efficiently. In other words, we are coming to the point now where this water power is so valuable that there should be some control to see that the power that is taken is used efficiently and the best results produced. In other words, not to let some company take the power and not have an efficient apparatus by which it can get the most with that power and not waste the power. We of Buffalo believe it should be properly handled and properly regulated by the proper authority to see that efficient power is generated and that efficient plants are erected and taken care of to use that power.

Mr. FLOOD. Is there any complaint that these companies have any inefficient plants?

Mr. HAMMOND. I have heard that some plants are more efficient than others.

Mr. DIFENDERFER. Now, the Hydraulic Power Co. is a company which is not distributing except in the neighborhood of Niagara?

Mr. HAMMOND. I can not tell you the details of that. Gentlemen here can give you those facts better than I, and I do not like to give you my impressions.

Mr. DIFENDERFER. What company transmits it to the city line?

Mr. HAMMOND. The Niagara Falls Power Co.

Mr. DIFENDERFER. Then it is taken from that company by a distributing company that has an agreement with another company for the service?

Mr. HAMMOND. Absolutely.

Mr. DIFENDERFER. So that there must be three profits paid from the time the water is taken to the time when it reaches the consumer?

Mr. HAMMOND. Absolutely.

Mr. DIFENDERFER. I should like to know something about that.

Mr. HAMMOND. That is something I can not talk about, but there are gentlemen here who can give you more facts. One company, the Cataract Power & Conduit Co., distributes only power, and they then furnish power to the Buffalo General Electric Co., which furnishes light, so that with that company there are only two profits, whereas with the Buffalo General Electric Co. there are three, which you mention.

Mr. FLOOD. With reference to this question of efficiency, what is the greatest quantity of power produced by any of these companies per cubic foot?

Mr. HAMMOND. I can not tell you. I have not the knowledge nor the inclination. That is all I have to say. Those three propositions are the things I came here for, and I have presented them as best I could, without any preparation. I came down to give you these facts and to say to you that, as far as the people of the city of Buffalo are concerned, they would like to have those things done, as well as that with regard to further regulations, if possible.

Mr. LEVY. Do you know what the cost of street lamps is in Buffalo compared with the city of New York?

Mr. HAMMOND. I do not.

Mr. LEVY. I would like to get some idea of just what benefits these companies are to Buffalo. How much do these companies, that may be considered as domestic companies, how much do they pay in taxes annually to Buffalo?

Mr. HAMMOND. I can not tell you that. We have in New York State a franchise tax by the State, as the attorney general can explain, and in addition to that we have the general taxation and the board of assessors of the municipality. I can send them to the committee if you desire it. I can give you the total amount of taxes that they pay. I will be very glad to do that.

Mr. LEVY. How much difference is there between the price charged for this electric power in Buffalo, per horsepower, and the price charged per horsepower generated by steam?

Mr. HAMMOND. We have not in Buffalo any company that generates power by steam and sells it to the public that I know of. In other words, we have simply these two companies, the Cataract Power & Conduit Co. and the Buffalo General Electric Co.

Mr. DIFENDERFER. They do substantially all of the business?

Mr. HAMMOND. Absolutely; it is a monopoly.

Mr. DIFENDERFER. There is no competition whatever?

Mr. HAMMOND. We do have some private plants for the purpose of lighting public buildings like the city hall. But there are only a few of those in Buffalo, and outside of that the only way the city of Buffalo can get electric power at the present time is from those companies.

Mr. DIFENDERFER. What does it cost per horsepower?

Mr. HAMMOND. \$30 per horsepower for purposes of power.

Mr. DIFENDERFER. What is the relative difference between the two, between the power and the lighting?

Mr. HAMMOND. The lighting runs from 4 to 9 cents a kilowatt hour. Nine is the house lighting.

Mr. DIFENDERFER. I do not see how you can institute any comparison between those two.

Mr. HAMMOND. We can make a comparison in the horsepower.

Mr. COHN. Mr. Hammond, you have stated here several times that this is a monopoly in the city of Buffalo.

Mr. HAMMOND. That is my claim.

Mr. COHN. Do you object to that, or do the people of Buffalo object to it as a monopoly?

Mr. HAMMOND. My position with regard to that, and here I can not speak for the city as a whole, I can speak from my experience. For instance, in the gas investigation—that is, I believe if we had the proper power placed somewhere to regulate and control and see that proper service is given, that a monopoly is best for the city. But without that proper control to regulate, to control these companies, then it is bad.

Mr. COHN. Is it not a fact that the company which I represent applied to the city of Buffalo to distribute power in the city, and its application was refused?

Mr. HAMMOND. That is so. That was some years ago.

Mr. COHN. Is it not a fact also that the Ontario Power Co. have tried to come into the city of Buffalo to distribute power, but that the franchise which was offered was of such a character——

Mr. HAMMOND. I do not know.

Mr. DIFENDERFER. Why do you not ask him under what conditions?

Mr. COHN. There were no conditions——

Mr. DIFENDERFER. Why was the rate refused?

Mr. HAMMOND. They did not want competition.

Mr. DIFENDERFER. Who controlled the refusal?

Mr. HAMMOND. The public authorities of the city of Buffalo.

Mr. LEGARE. Have you the right under your charter to manufacture your own electricity?

Mr. HAMMOND. I think we would have to have an amendment to the charter, to have an amendment by the legislature.

Mr. LEGARE. Are you sure about that?

Mr. HAMMOND. That is my impression; that we would have to do that to have that right.

Mr. DIFENDERFER. In granting this original right, did you give this power company absolute right to use the streets without competition?

Mr. HAMMOND. Oh, no; not without competition at all; absolutely not.

Mr. BROWNE. Coming back to the question suggested by Congressman Levy, I understand that when you speak of what the city of Buffalo wants, you speak only of quantity?

Mr. HAMMOND. Of what?

Mr. BROWNE. Of quantity. What the city of Buffalo wants is that the full amount of 20,000 feet allowed by the treaty shall be allowed to be diverted, so that it can get the benefit of the 4,400 feet! The city of Buffalo wants more power?

Mr. HAMMOND. Yes, sir.

Mr. BROWNE. Is it not true that they also want more power by importation—that they want more power, by importation—that they want more power, wherever it comes from?

Mr. HAMMOND. And we need it.

Mr. BROWNE. And there is a demand for it?

Mr. HAMMOND. Absolutely. And it should be properly regulated and controlled. That is why I come back to the Federal proposition.

The CHAIRMAN. Is that all you desire to say?

Mr. FLOOD. You said in your opening remark you were going to say something about a division of territory between these companies.

Mr. HAMMOND. I simply said to you that from the facts I have been able to ascertain, what I expect to prove in the investigation is that there is that arrangement.

Mr. FLOOD. You did not expect to prove it here?

Mr. HAMMOND. I am satisfied there is a division of territory between these companies.

Mr. FLOOD. Could you state what territory the respective companies have?

Mr. HAMMOND. I can not state that at the present time, and I would not want to state it, if I might be permitted not to.

The CHAIRMAN. Is there any other person here who desires to be heard, from the State of New York?

We will now hear from Mr. Edward Haggeman Hall, representing the American Scenic and Historical Association.

**STATEMENT OF MR. EDWARD HAGGEMAN HALL, OF THE
AMERICAN SCENIC AND HISTORICAL ASSOCIATION, OF NEW
YORK, N. Y.**

Mr. HALL. Mr. Chairman, I represent the American Scenic and Historical Association.

I came down here by vote of the trustees of our society at their regular monthly meeting last evening, upon only two hours' notice.

Our interest is in the preservation of the scenery of Niagara Falls. Two of our trustees best qualified to speak on that subject were prevented from coming, one by illness, and another by an engagement in the courts.

It seems to me proper that one should speak with specific facts with regard to these matters. I do not feel qualified upon this short notice, so to speak, and I do not think it is just, either to our society or to you or to myself, to attempt to present such an argument on such short notice, without preparation.

I feel, however, that the principal legal question which has come up here is one which is worthy of your consideration, and I might say we called it to the attention of the senior Senator from New York something over a year ago, and called his attention to the fact that the question which the Attorney General has brought up here to-day is liable to come up. I want to say for our society that, in case Congress should turn that power over to the State, we have as much confidence that our State authorities will be amenable to the sentiment in regard to the preservation of the Falls as you gentlemen here.

Mr. GARNER. Who was the senior Senator from New York, whose attention you called to it?

Mr. HALL. Senator Root.

Mr. GARNER. You do not know whether he was interested in any of these companies, do you?

Mr. HALL. I do not.

Mr. DIFENDERFER. Would your association be satisfied to turn this matter over to the conservation commission of the State?

Mr. HALL. I think so, sir. They have not passed upon that question because I do not think they knew about it.

Mr. DIFENDERFER. You would be willing to have them take jurisdiction in this matter?

Mr. HALL. If they could.

The CHAIRMAN. The committee will now hear from Mr. J. Horace McFarland, president of the American Civic Association.

STATEMENT OF MR. J. HORACE MCFARLAND, PRESIDENT, AMERICAN CIVIC ASSOCIATION.

Mr. MCFARLAND. Mr. Chairman, the legislation before you relates to the enforcement of Article V of the treaty between the United States and Great Britain, proclaimed May 13, 1910, the section cited being that which limits the diversion of the water of the Niagara River above the Falls of Niagara for power purposes.

In order that the true intent of the article of the treaty mentioned may be discovered, it is proper to consider the circumstances preceding its discussion, signature, and ratification.

On October 6, 1905, the American Civic Association then in session in Cleveland, telegraphed to the President of the United States and to the Governor General of Canada a statement strongly urging international action for the preservation of Niagara Falls, and thus raising for the first time, upon the basis of the ordinance of 1787 erecting the Northwestern Territory, the question of international ownership of the great cataract. This resolution was by the President of the United States referred to Attorney General William H. Moody, who replied in the following words:

As to the ground for Federal intervention, so far as proposed, I think there can be no fair doubt. The character of Niagara Falls as one of the greatest natural wonders, its situation in a boundary river on the frontier of a foreign country, its undoubted historical relation as a natural possession and common heritage—all these elements in the case would fully justify you in proposing through the ordinary diplomatic channels the consideration of this subject by the two Governments immediately concerned.

The same point of view in reference to the paramount jurisdiction of the United States and the Government of Great Britain was held by former Attorney General P. C. Knox, now Secretary of States, and also stated by former Attorney General John W. Griggs, in the following words:

Whatever jurisdiction the State of New York has over the waters of the river and their use is subject and subordinate to the power of the National Government in two respects: First, with respect to navigation, as to which the laws of Congress are supreme. Second, as to the subject of boundary between this Nation and Canada, in respect to which the United States and Great Britain have the right by treaty stipulation to impose such conditions and regulations upon the use of the river and its waters as they deem mutually proper. A treaty duly negotiated between these two powers and ratified by the Senate of the United States would be the supreme law of the land, and if in such treaty it were provided that no such use of the waters as is contemplated should be hereafter made, and this regulation were enforced by act of Congress, the treaty and the legislation would be valid, the rights of the State of New York and all private riparian owners to the contrary notwithstanding. * * * It is in my judgment necessary, in order that full and complete control of this subject may be obtained by the two powers, that an international agreement in the form of a treaty should be made. Such a treaty would involve no infraction of or trespass upon the rights of the State of New York, because its rights as above stated are subordinate to the superior jurisdiction of the Nation with respect to the stream as a navigable river and as an international boundary.

Deeming it proper so to do, President did institute diplomatic correspondence with the Government of Great Britain looking toward the negotiation of a treaty for the purpose of preserving Niagara Falls. Meantime he thought it wise to call the attention of Congress, upon its assembling in December, 1905, to the necessity for intervening legislation on the part of the United States, and in several interviews with officers of the American Civic Association the President made plain his earnest desire that legislation be enacted looking toward a cessation of the proceeding spoliation of the Falls.

The point is here made that all this effort in respect to an international treaty to be negotiated arose from an insistent desire on the part of the President and the people of the United States to preserve the Falls of Niagara in their scenic majesty.

The further point is made that, whereas, in consequence of a resolution of the Legislature of the State of New York, passed March 17, 1904, the then Secretary of State, Hon. John Hay, had begun negotiations with the British ambassador for the preservation of Niagara Falls, active work in that direction was not instituted until after, by the action first mentioned, in October, 1905, the American Civic Association drew the attention of the President, Congress, and the country generally to the dangers then and since existing and to the international ownership of the Falls.

Although the State of New York did, by its action in 1904, thus call the attention of the Federal Government to the necessity for the preservation of Niagara, that State had exercised no efficient control over the Falls looking toward their preservation under its then presumed exclusive State control. Thus that legislature had granted to the Niagara Falls Hydraulic Power & Manufacturing Co. and to the Niagara Falls Power Co. the right to use a total of 26,700 cubic feet per second and had likewise granted six named corporations, between 1886 and 1894, additional charters permitting the taking of water from Niagara River for the production of power, some of them practically without limit.

There had been by the State of New York no attempt whatever to restrict the use of the water of the Niagara River for the production of power, as may be judged by the total amount involved in the right actually granted and alive to-day, so far as that State is concerned.

While also the State of New York had, through its creation in 1885 of the State reservation at Niagara, admirably restored the surroundings to the Falls, against the opposition of the beneficiaries of their local desecration and the city of Niagara Falls, it had not and has not since undertaken any protection whatever of the gorge below the State reservation, or of such extension of the State reservation as would make it compare in extent with the Queen Victoria Niagara Falls Park erected by the Province of Ontario on the Canadian side of the Falls.

That is, the State of New York has not, when it had unchecked control of the Falls, in any way attempted to restrain their diversion for the purpose of power production, or to take care of the scenery incident to this great natural spectacle, except in respect of the admirable reservation above mentioned.

The point is therefore made and enforced that there is no warrant for the contention that has been made before this committee that the State of New York has any right whatever in connection with the distribution or assignment of water permitted to be diverted under the treaty of Canada.

Your committee has heard numerously, from various corporations, and some individuals, upon the effect of diversions that have already proceeded, and upon others it is desired to authorize, directly or indirectly. Attention is called strongly to the fact that every one of these arguments relates to the taking of more water from the Falls of Niagara. Not one of those corporations here and now represented is seeking to give up any claim it may have to the use of the water of the Niagara River. Any yielding, of whatever nature, to any of the claims here made means, then, a further depletion of the cataract.

All statements made should be considered in this light only, except as made by those few who are here to represent the great American

people, the rights of whom in the ownership of this natural wonder I am confident your committee will safeguard.

Now, it is apparent that, first, the State of New York has shown almost no concern as to the integrity of the Falls of Niagara, and, second, that the institution of the diplomatic negotiations, which resulted in the treaty proclaimed May 13, 1910, was, so far as the purpose of this present discussion is concerned, entirely with a view to the preservation and not the extended use of the Falls of Niagara. According to a letter written me by Hon. Elihu Root, when he was Secretary of State, under date of October 20, 1906, "the negotiations between the United States and Great Britain for the preservation of Niagara Falls were begun between Mr. Hay and the British Ambassador." In a further letter, written to me by the same gentleman, October 24, 1906, Mr. Root says:

There is serious danger that we can make no treaty for the preservation of Niagara Falls.

There was no other thought than this in the minds of those who have furthered the institution of diplomatic negotiations, and the act, approved June 29, 1906, in section 4, specifically requests the President of the United States "to open negotiations with the Government of Great Britain for the purpose of effectually providing by suitable treaty with said Government for such regulations and control of the water of Niagara River and its tributaries as will preserve the scenic grandeur of Niagara Falls and of the rapids of said river."

No further argument is needed, I infer, to prove that the only purpose of the United States in seeking the treaty proclaimed May 13, 1910, in so far as Article V is concerned, was to preserve Niagara Falls. That there is no such statement in Article V of the treaty does not change the intent of the people of the whole country whose insistence brought about the action which resulted in the negotiation of the treaty.

When the details of the treaty were first made known, and previous to its ratification, the American Civic Association was impelled to make objection, first, to the absence of any specific mention of the real object of that part of the treaty outlined in Article V; second, to the large authorized diversion; and, third, to the absence of any mention or supervision of the importation of electric power from Canada. These objections were made known to Secretary of State Root, and it is betraying no confidence to say that he urged me with all vigor and force not to interpose objections to the confirmation of the treaty by the Senate, which objection at that time could have been made conclusively effective, alleging that he had done his utmost with the Government of Great Britain, and specifically stating that the inclusions of Article V were permissive and not obligatory. Secretary Root understood them fully that there would be strong opposition in the United States to the extension by more than 25 per cent of the amount of diversion which had already been found to injure the Falls, and more opposition to the unrestricted importation of power from Canada.

It was upon Secretary Root's presentation of the permissive features of Article V that I agreed not to interpose any obstacle on behalf of the American Civic Association to the ratification of the treaty by the Senate. The language of the treaty is plain when it says:

The United States may authorize and permit the diversion within the State of New York of the waters of said river * * * for power purposes, not exceeding in the aggregate a daily diversion at the rate of 20,000 cubic feet of water per second.

The same permissive phrasing is attached to the Canadian section. It would be stultifying to say that the deliberate conclusion in Article V of the words "may authorize" and "not exceeding" was equivalent in its inclusion to the words in the preceding paragraph, which said "no diversion of the waters of the Niagara River above the Falls from the natural course and stream thereof shall be permitted."

It is proper, though incidental, to hear remarks that the third paragraph of Article V authorizes the United States to permit the diversion of a certain amount of water, and not the State of New York, whereas the fourth paragraph authorizes a certain diversion "by the Dominion of Canada or the Province of Ontario."

The treaty thus plainly settles the question of jurisdiction as between the Province of Ontario on the one side and the Federal Government only on the other side.

As bearing upon the view had of this matter by the British ambassador himself, Hon. James Bryce, I may say that at an extended interview had with him in the spring of 1906 he most emphatically joined in the desire of the American Civic Association for the full preservation of the Falls of Niagara. At his request I sent him to Ottawa full details as to permits, diversions, power works, and the like, not previously in his possession. It was characteristic of Mr. Bryce's public spirit to have him say to me:

If I were not British ambassador and could make speeches about this matter for two weeks in Canada, I know the Falls could be preserved.

The points are here made that, first, Article V of the treaty under discussion was, so far as the United States of America is concerned, formed solely and only for the preservation of Niagara Falls, and not for the extension of the use of Niagara Falls in the production or importation of additional power; second, that the preservative idea was fully in the minds of all those concerned on the part of the United States, and at least of the British ambassador himself on the part of Great Britain, at the time of the negotiation, the signature, and the ratification of the treaty. There would have been no such article in the treaty had not the American Civic Association and other organizations of like aims voiced the will of the people for the preservation of Niagara Falls.

I need not present to your committee details with which you are already completely familiar in the extended and admirable discussion as to the preservation of Niagara Falls contained in Senate Document 105, as transmitted in a message from the President of the United States, under date of August 21, 1911. The facts there presented, after three years of engineering work of a novel, delicate, and intricate character, speak for themselves. Gen. Marshall says:

The existing diversions have already seriously interfered with and injured the scenic grandeur of Niagara Falls, at the Horseshoe, which injury and interference will be emphasized by the effects of lower stages fewer to recur on Lake Erie and the upper lakes, due to natural causes.

Referring to the established reduction in the depths of Lake Erie, 'e to the present authorized diversion for power for production

at Niagara Falls, and contemptuously disregarding various pleas made to you by those who are interested in taking more water from Niagara, the statement is made by the Chief of Engineers that "the aggregate loss per season for the entire fleet using Lake Erie ports as terminals becomes a very large amount," which is an additional reason for restraining any further diversion. There can be no doubt as to the will of the people of the United States, which Congress is bound to respect, and which has been emphatically manifested as desiring the efficient preservation of Niagara Falls further unharmed. In fact, I believe that if a referendum was now made to the voters of the United States there would be an overwhelming majority for the complete restoration of Niagara Falls to their pristine majesty, regardless of the private interests thus dispossessed.

The people are cognizant of the fact that in the Falls of Niagara—a world spectacle of increasing value—they have not only a vast and beneficent financial resource in its attraction of a million visitors a year, with an admitted travel expenditure of \$25,000,000 annually, which at 5 per cent would give Niagara Falls a capitalized value of \$500,000,000, but they have also the knowledge that if the Falls are preserved and developed into electricity for distribution entirely to private advantage, there may continue a wide combination of utilization and conservation which, should the last final needs of the Nation require, might in the then-improved methods of producing and distributing electricity, inure to the enormous advantage of many millions of people.

I desire to emphasize strongly the fact that, as based upon the findings of the Chief of Engineers, already referred to, any diversion of water for power purposes from the upper pool, whether that diversion be made in the United States or in the Province of Ontario, equally interferes with the scenic integrity of Niagara Falls. Thus the diversions of the Ontario Power Co., the Niagara Falls Hydraulic Power & Manufacturing Co., the Niagara Falls Power Co., all draw equally and indiscriminately from this upper pool, and equally and indiscriminately destroy the scenic integrity of the cataract.

It is true the United States can not control such diversion as is made within the Province of Ontario, in so far as the resulting power is used within the Province. It is equally true that the use of electric power in the United States, whether it is developed on the Canadian side or on the American side, equally and efficiently interferes with the integrity of the Falls. It would be unworthy of a great nation, and an evasion which the people of the United States would properly resent, if the view should be taken that, while there was maintained sharp restrictions on the diversion of water in the United States for the production of power in order to preserve the scenic integrity of the Falls, there need be no restriction of the importation of that power produced across the international border from water drawn from and equally depleting exactly the same pool.

This point of view is the more efficiently presented in the admirable document already mentioned, in connection with its insistence upon the damage that has already occurred in the Horseshoe Falls, which I need not point out to your committee, is as much an American fall as it is a Canadian fall.

In the document above referred to, a novel and most important view of the situation is presented on page 56 in respect to the way in which diversion not only tends to bring about an "unwatered crest line or bare spots in the rapids," but actually decreases the height of the fall by abstracting water from the crest line and restoring it in the gorge below.

It is also notably in point to call your attention to the statement on page 20 of the report above mentioned that the mean or average flow of the Niagara River is 210,000 cubic feet per second. This is 12,400 cubic feet per second less than the average flow as reported in paragraph 3 of the report of the American members of the International Waterways Commission to the Secretary of War under date of March 6, 1906. Inasmuch as all previous computations of the diversions authorized at Niagara Falls have been based upon the older estimate it will be seen that the later and more accurate findings of the Government engineers, showing an average flow of $5\frac{1}{2}$ per cent less in volume, makes the problem of the diversion more serious and menacing. To take such action, under these circumstances, as would either directly or indirectly commit the United States to the diversion of the full permissive amount mentioned in the treaty would be to propose the depletion of the Falls of Niagara by exceeding 26 per cent. Not even the most astute of the engineers who are here asking, by direction and indirection, for more water for private benefit would, I insist, venture to go on record as believing that this total diversion would be unimportant or less than destructive.

It is here in point to say again that you have heard, and are hearing, and will hear from many who have plans at and about Niagara Falls, all looking toward the getting of a little more water. Not one of these plans in itself would work irreparable injury, but it is the aggregate of them that, although they have not exceeded much beyond 50 per cent of the contemplated treaty diversion, have already, according to Gen. Marshall, "seriously interfered with and injured the scenic grandeur of Niagara Falls."

Presentation has been made in detail by the engineer of the Lake Survey as to the utilization of the water granted under the provisions of the so-called Burton bill, approved June 29, 1906, and its extension.

I desire to emphasize these presentations, calling your attention to the fact that one of the companies most insistent on access to an additional amount of water on the American side—the Niagara Falls Power Co.—is now, according to Gen. Marshall's report, realizing "only about two-thirds of the available head." The fact that this company was a pioneer does not, I respectfully insist, in any sense make it proper that additional water be furnished from the glory of Niagara to make up for its lack of modern efficiency in using the water already given to it. I am not aware, as a master printer, for instance, I can claim any consideration from my customers or from the States when I am obliged to dispose at a great loss of my machinery, which was up to date when installed, but which has been superseded by more advanced and efficient items.

The same criticism applies quite properly to the admission from Canada within the limitations of the Burton bill, of the power produced by the Canadian-Niagara Power Co. at a utilization of but 136 feet one of a fall of 172 feet, and I respectfully urge that in line with Gen. Marshall's report, this company "should be called upon to

increase economy of conversion to the utmost limit permitted by the present condition of knowledge."

The water of Niagara is precious water; it belongs to all the world. It is of vast value to all the world as it plunges over the great precipice. And any diversions from and depletions of its glory should be attended by the utmost possible economy and value, and I respectfully urge this as one reason for declining to permit any additional diversions from Niagara on the American side, or admission of power from Canada, beyond the restrictions included in the Burton law above mentioned.

The recommendations in the report of the Chief of Engineers, previously referred to, contain certain novel propositions, looking, in one instance, as given on page 15, to the building of a "submerged dam placed in the bed of the river immediately above the Horseshoe Falls," and in the other instance, as mentioned on page 75, to "the construction of regulating works in the Niagara River to avoid the wasteful outflow of the water of Lake Erie."

If, upon further and detailed engineering study, these recommendations should prove practicable, and if the submerged dam in the first instance could be completed and in effect observed before any further diversion was authorized, it might be worth while then, and in the event of no further damage appearing, for the Federal Government to consider an extension to the limits of the treaty permission.

The American Civic Association has from the outset had no disposition to interfere with the sincere investments of those who were developing power at the time the wishes of the people of the United States became apparent, but it believes that no lease extension beyond the works then in actual or potential going form should be permitted, unless such extensions should be conclusively shown to prevent no further possibility of damage to the attractive and profitable spectacle of Niagara Falls as the greatest cataract of the western world.

In conclusion I wish to urge upon your committee, as in line with the most liberal thought of the American people, with whom we have had contact in letters, newspaper articles, and public meetings, aggregating the sentiment of millions, the qualification of existing proposed legislation before you, or the formulation of new bills, to bring about effectually and during the life of the treaty under discussion the recommendations found on page 15 of the document entitled "Preservation of Niagara Falls," already quoted from, namely, that the "minimum limit" of diversion authorized on the American side—namely, 15,100 cubic feet per second—be recommended; and that no greater amount of energy is permitted to be imported into the United States from Canada than 160,000 horsepower.

Maintaining the status quo as thus outlined will be acting on behalf of the American people. Extending the use of the water, either by granting permits for the diversion of a single additional foot, or by the admission of an additional horsepower from Canada will be for the interests of and in accordance with the demands of only the relatively few persons involved in the corporations selfishly developing power from the waters of the Niagara River.

The CHAIRMAN. If you have anything further to submit, Mr. McFarland, as a part of your remarks, it will be incorporated in the record.

The Chair wants to say that the committee will take a recess in regard to the hearings concerning the Niagara Falls power bill until next Friday morning at 10 o'clock. We desire to close the hearings in this subject next Friday, if possible.

Thereupon, at 12.25 o'clock p. m., the committee adjourned until Friday, January 26, 1912, at 10 o'clock a. m.

COMMITTEE ON FOREIGN AFFAIRS,
HOUSE OF REPRESENTATIVES,
January 26, 1912—10 o'clock a. m.

The committee this day met, Hon. William Sulzer (chairman) presiding.

The CHAIRMAN. Dr. McLaughlin, representing the Public Health and Marine-Hospital Service, will be heard this morning.

STATEMENT OF DR. ALLEN D. McLAUGHLIN.

Dr. McLaughlin, will you give your name in full and your relations to the Government?

Mr. McLAUGHLIN. Dr. Allen D. McLaughlin, first assistant surgeon, United States Public Health and Marine-Hospital Service.

The official interest of the Public Health and Marine-Hospital Service on this problem is of course limited to the sanitary aspects solely, and it may be narrowed even further to the undue prevalence of typhoid fever in the cities on the Niagara frontier.

In Bulletin No. 77 of the Hygienic Laboratory is published the results of a preliminary sanitary survey of the territory, touching upon sewage pollution of the interstate and international water, with special reference to its bearing on the spread of typhoid fever. Of course you readily understand that in the undue prevalence of typhoid fever in the cities of great industrial and commercial importance—cities which by reason of the surrounding country draw a large number of visitors from every State in the Union—the question of water supply involves the cities as an interstate matter; it is a great interstate matter because the traveler is not protected as well as the resident. He is at the mercy of the hotels and has to take what they give him, while the resident is warned that the water is dangerous.

For this reason the Federal Government made this survey.

The following extracts from the bulletin will show practically the view which I held before and which I have no reason to change.

In regard to sewage disposal, Buffalo has done nothing beyond conveying its sewage to the Buffalo and the Niagara Rivers. It amounts to about 116,000,000 gallons daily. Proper sewage disposal requires two things—it must not create a nuisance and it must not be a menace to health.

It is conceded that a stream flow of $3\frac{1}{2}$ to 7 cubic feet per second for each 1,000 population will care for sewage so that no nuisance is created. According to this calculation Buffalo would require for disposal of its sewage from the standpoint of nuisance, a stream flow of about 1,500 to 3,000 cubic feet per second. The Niagara River has a flow of about 220,000 cubic feet per second.

From the standpoint of menace to health, Buffalo's sewage disposal is another question. While the dilution is great, it is not as great as it appears at first glance, because of the fact that the polluted current hugs the shore

and the complete dilution with the entire mass of water does not take place. Owing to the velocity of the stream, sedimentation is scarcely possible, and this velocity is another dangerous factor in carrying contamination quickly from Buffalo to the water fronts of other cities lower down the river.

The sewage of Buffalo is unquestionably a great menace to the inhabitants of the Tonawandas, Niagara Falls, and Lockport, just as the sewage of the Tonawandas is a menace in lesser degree to the people of Niagara Falls, so long as these communities drink unfiltered or untreated water from the Niagara River. The position of the intake well out in the channel may protect from the shore pollution during good weather conditions, but its safety because of this is not assured. One thing is certain—the Niagara River can not be used as a sewer and at the same time be expected to furnish safe drinking water at all times without filtration or treatment of the water.

Even if the entire sewage of Buffalo was diverted from the Niagara River, there is a question whether this stream could furnish a raw unfiltered or untreated water safe to drink 365 days in the year. One tributary stream alone, the Buffalo River, empties into the Niagara in time of flood as much as 20,000 cubic feet per second, the drainage from a very large and populous area.

The question of practicability of stopping the pollution of the Niagara River and of making the water safe for drinking purposes in its raw state requires very serious and close study. Certainly there are obstacles in the way which are very great from an engineering and economic standpoint. In view of these facts, it is the plain duty of municipalities now drinking Niagara River water without adequate filtration to take steps toward making such water safe while awaiting the solution of the larger problem of sewage pollution of the stream.

These municipalities have all failed in their duty to provide drinking water for their citizens. The Tonawandas have a sense of false security by reason of the position of the intakes. The municipal officials of Niagara Falls could have had no such delusion. They were informed by their own health officers and must have known for years that they were drinking dilute sewage and that the typhoid rate was continuously higher than any other American city, yet it was not until 1906 that steps were taken to filter the water, and the plant is not yet in operation. Niagara Falls's dereliction of duty was more culpable for another reason; during summer and autumn months thousands of persons visited the city from every State in the Union and from foreign countries as well.

In a word, purification becomes necessary for two reasons, viz:

1. To obviate nuisance.
2. To protect the public health.

The first, that of nuisance, is eliminated at once by the enormous stream flow, and will be touched upon later.

The second, menace to health, is present in spite of the enormous volume of water available for dilution, because these municipalities persist in using unfiltered and not-treated water for public water supplies. The public health can be adequately protected at once against the present pollution of the Niagara River by the installation of proper plants for treating or severing the water supplies of the various municipalities using the Niagara River as a source of public water supply.

The absolute prevention of pollution of a large stream draining a large and populous watershed is an impossible idea. Prevention of pollution to the point where the stream is safe for drinking a part of the time and restricting the pollution in amounts are feasible, but prevention of pollution to the point where such a river as the Niagara is safe for drinking every day in the year without filtration or treatment is an impossibility.

The crying necessity of all these cities from a sanitary standpoint, and especially from the standpoint of typhoid-fever reduction, is filtered or treated water supplies properly supervised to insure safe drinking water 365 days in the year.

Sewage purification may be necessary and often is necessary in spite of the presence of filtered or treated public water supplies in order to furnish a good raw water for the filter plants. The sewage pollution of the Niagara River at present probably does not cause at any of the intakes—Buffalo, Tonawanda, North Tonawanda, Lockport, and Niagara Falls—a bad raw water. By a bad raw water I mean a water not amenable to treatment without putting an unreasonable strain, responsibility, or cost upon a properly constructed purification plan. Niagara Falls primarily had a very bad raw water taken from the Niagara Falls Power Canal, but the new intake, 1,500 feet from shore, should furnish a good raw water, though not a safe water without purification. Their intakes were 1,500 feet from the shore, and they really thought their intakes were safe. The Niagara Falls municipal water officials took their water from the Niagara Falls Power Canal, which was shore water, practically, and which was very polluted.

Disposal of sewage by dilution is the cheapest known means of sewage disposal, and we would be very foolish if we failed to avail ourselves of this means wherever possible without detriment to the public health. As a general proposition it is cheaper to purify water than sewage.

An absolute prevention of pollution is impossible. What we need is control of pollution within permissible limits. Disposal by dilution should be permitted up to these limits. The permissible limit of pollution should be determined by water examination; and official standards for raw water, which will fix the boundaries of permissible pollution, are a necessity.

When the sewage contribution to the Niagara reached the point where a good raw is not obtainable, or where the water as furnished puts an unreasonable strain or excessive cost on the water purification plants, then purification of the sewage becomes necessary to the point where a good raw water is assured.

It is largely an economic question, and the balance between these two great agencies—water purification and sewage purification—must be adjusted with a nicety. No general rule can be formulated, as each city is a distinct problem. It would be unjustifiable to insist upon an expensive ideal method where the same results—the proper safeguarding of the public health—may be affected at a lower cost by judiciously combining disposal of sewage by dilution, or a partial purification of sewage with water purification.

Only by turning back the streams that pollute the east end of Lake Erie and the Niagara River can conditions be remedied.

Mr. SHARP. Will you please repeat that last observation there?

Dr. McLAUGHLIN. "Only by turning back the streams that pollute the eastern end of Lake Erie and the Niagara River can conditions be remedied." This statement in Mr. Bowen's letter is attributed to Mr. Isham Randolph. I presume by conditions he means sanitary conditions, especially extensive prevalence of typhoid fever. If so, I must take issue, as it is clear to the writer that proper water purification in these cities will remedy the conditions without turning back the streams. Such turning back of the streams might improve the quality of the Niagara River, but not to the point where it would be a safe drinking water without purification every day in the year, especially following heavy rains and floods; and, as indicated above,

a good raw water amenable to treatment is secured at any of the intakes under discussion.

Outside of the question of safe water supplies, and to return to the question of sewage disposal to obviate nuisance, the projected canal as a sewage carrier, or as a recipient of a more or less purified sewage effluent, has distinct disadvantages compared with the Niagara River. The Niagara River, with a stream flow of 220,000 cubic feet per second, could take care of sewage in this area from an urban population of more than 50,000,000 without nuisance—obviously for a very long time in the future.

The proposed 6,000 cubic feet per second of canal flow would be able to care for the sewage of these cities without nuisance for a much shorter time. Theoretically from $3\frac{1}{2}$ to 7 cubic feet per second of stream flow will care for sewage of 1,000 persons without nuisance. This would mean that the theoretical limit of disposal in this way by the canal would be reached when the population reached 1,700,000. Experience shows that the limit of sewage disposal by dilution is reached more quickly for certain reasons.

Mr. SHARP. Where you differ with Mr. Bowen, you mean in that connection the sewage disposal proposition for each city so as to prevent it being thrown into the stream?

The CHAIRMAN. He means filtered.

Dr. McLAUGHLIN. Yes. No rule can be furnished which will cover every city. At present the raw water at the intakes 1,500 feet from shore is so good that many people contend that it doesn't even need filtration. But it is the plain duty to put in purification plants, because even after an ideal scheme of sewage disposal you couldn't make the water safe without purification.

Mr. SHARP. What I had in mind was this: Quite a number of towns and cities are located on the streams, and the question has been raised in a number of those places as to the proper distribution of sewage in those towns, so that it will not escape into the rivers that run down into the lake which contaminate the lake quite as much as the towns located right on the lake, because the streams run direct from those towns into the lake. I know on Lake Erie there are quite a number of those towns.

Dr. McLAUGHLIN. Yes, sir. I made the survey of all of those from Toledo to Buffalo on Lake Erie.

I might say here that we come in on that. Apparently, they consider it our duty as public health officers to consider bad odors and smells the same as disease, and that is true of all the town and village officers.

The CHAIRMAN. Doctor, what have you to say regarding the advisability of conferring jurisdiction on the International Waterways and Boundary Commission to prevent the pollution of the streams and lakes between Canada and the United States?

Dr. McLAUGHLIN. I really never thought of that, Mr. Chairman.

The CHAIRMAN. Why wouldn't that commission be a good body to have jurisdiction?

Dr. McLAUGHLIN. I think the control of the pollution of the streams, within permissible bounds, should be taken care of by the Public-Health Service of the United States.

The CHAIRMAN. Is the Public-Health Service of the United States doing anything to prevent the pollution of the waters between Canada and the United States?

Dr. McLAUGHLIN. I don't think the Public-Health Service has such power, sir.

The CHAIRMAN. Then between the International Waterways and Boundary Commission and the Public-Health Service of the United States, you think the jurisdiction should be in the Public-Health Service?

Dr. McLAUGHLIN. I believe that the officers of the Public-Health Service are qualified and competent and it would be in line of their work to make the necessary examination, which is the only way it can be controlled by a systematic control of the water.

The CHAIRMAN. The International Boundary Commission can do that.

Dr. McLAUGHLIN. Yes, sir; very nicely.

The CHAIRMAN. The International Boundary Commission would have jurisdiction on both sides—the Canadian side and also the United States side—and it could make rules and regulations by which the waters could not be polluted along these streams and lakes in the United States and Canada.

Mr. SHARP. May I ask you, Mr. Chairman, in that connection, inasmuch as you have given some thought, evidently, to this, what would be the outcome of launching that power in that commission with reference to having any conflict with the boards of health in the different cities bordering on these lakes?

The CHAIRMAN. I doubt if there would be much conflict, because you can give jurisdiction to the International Boundary Commission and that body would then formulate rules and regulations.

Mr. GARNER. They are limited in their power. Under what provision of the Constitution are you going to turn over the regulation of the health of the people, either by the commission or by Dr. McLaughlin's department or any other department? How are you going to say—under what provision of the Constitution are you going to turn over the regulation of the health of the people from the State of New York to the Federal Government?

The CHAIRMAN. I might answer, the general welfare clause. [Laughter.]

Dr. McLAUGHLIN. Mr. George M. Wisner, chief engineer of the sanitary district of Chicago, has found that, although theoretically Chicago should not reach the limit of disposal by dilution without nuisance before 1920, as a matter of fact the limit has already been reached, and a nuisance actually exists at the points on the drainage canal system. Certain urban wastes, such as stockyards refuse, etc., make the contribution for 1,000 persons from large cities richer in organic matter and putrescible materials than that from 1,000 persons in smaller communities. Mr. Wisner further shows that the oxygen of the fresh lake water, which is the agent which prevents nuisance, is robbed from the water by the deposits of septic fludge accumulating in long reaches of quiet flow, and consequently is not available for action on the fresh sewage. This being a power canal, with dams and long reaches, it will afford excellent chance for sedimentation and the formation of the fludge deposits which greatly rob the water of its oxygen. The growth, commercial and industrial,

which will probably accompany this power development, will further approximate the condition against which Chicago is struggling.

It is certain, if this proposed canal is used for the disposal of sewage by dilution, that nuisance will result before the urban population reaches one and three-quarters million. This will necessitate one of two things:

1. Increased stream flow through the canal for dilution purposes, or,
2. Purification of the sewage before discharge into the canal.

The first solution, increased stream flow of the canal, may be impracticable because of laws and treaties existing or to be made.

The second solution, purification of the sewage, will impose an excessive burden upon the city of Buffalo, which it will be difficult to justify, in view of the fact that the disposal by means of the Niagara River, whether by simple dilution or partial purification, will be found a much cheaper proposition.

Mr. GARNER. Let me ask you a question, Doctor, if you will permit. You have given us a very interesting statement concerning what I might term the neglect of the officials of the different cities and the State of New York to preserve the health of their people. The question we have got under consideration is the carrying out of a treaty between Great Britain and the United States to utilize certain waters in the Niagara River, and the particular question we have got under consideration is the question whether we have utilized 4,400 feet not now authorized by statute, and whether or not we will let in from Canada certain power—the question of power you have nothing to do with. Now, what conditions could Congress make in considering this question that would remedy the defects—the citizens themselves, or the neglect of the citizens themselves, to take care of their own health? What remedy could you suggest that Congress could provide to protect those people against themselves?

Dr. McLAUGHLIN. I think that in the interest of the general good, from an interstate standpoint, there should be official standards of water, raw water, in rivers used as sources of drinking supply. These standards should be a minimum to which the States could add such restrictions as they see fit under their laws. This should be the minimum requirement to give us protection in a State where there are no laws. Take the State of Michigan. I can speak of it because I am from Michigan. We have no laws controlling the water supply, and the city of Port Huron can pollute the waters of Lake Huron.

Mr. GARNER. Then, if I understand you, you would have the Congress of the United States pass a law undertaking to go into a State and to compel the States to use a certain kind of water for drinking purposes, making a standard of water to be drunk in the State?

Dr. McLAUGHLIN. Making a standard that they shouldn't drink any water worse than that.

Mr. GARNER. Under what provision would you get into the waters of the States that isn't interstate commerce?

Dr. McLAUGHLIN. I think that the undue prevalence of a dangerous disease in a great city of great industrial and commercial importance, for instance Pittsburgh, is something more than a local or State matter. I don't know what authority we have and we are under the impression that we haven't any authority. We have made a scientific investigation to show the necessity of that.

Mr. GARNER. I think you are to be congratulated upon your efforts to take care of the public health. The only thing I was trying to get at was has Congress the power to regulate these matters or isn't it a matter that the people ought to take action upon themselves. And they ought to be educated up to the standard that you would have them go.

Dr. McLAUGHLIN. The position of our service is that the health machinery ought to be in the hands of the State. But we ought to have a standard just as we have in quarantine law. We helped them in the State of New York during the cholera epidemic.

The CHAIRMAN. Doctor, will you be good enough to leave your statement with the reporter?

Mr. DIFENDERFER. This committee is after information bearing upon certain subjects that have been explained to you. Are you acquainted with the health officer, Robert Talbott, of Niagara Falls?

Dr. McLAUGHLIN. I met him; yes, sir; when I was there. He had just been appointed.

Mr. DIFENDERFER. Do you know whether or not he is an efficient officer? Do you regard him as such?

Dr. McLAUGHLIN. I don't know anything about him. His predecessor had been there a great many years.

Mr. DIFENDERFER. He has made a statement here which I have taken from one of the newspapers. It is entitled, "City's drinking water polluted by Buffalo and Tonawanda sewage." It is a short article and I would like to make this a part of the record, if you please, Mr. Chairman.

The CHAIRMAN. There is no objection to that.

CITY'S DRINKING WATER POLLUTED BY BUFFALO AND TONAWANDA SEWAGE—HEALTH OFFICER TALBOTT TELLS WHY THERE WERE 358 CASES OF TYPHOID AT NIAGARA FALLS LAST YEAR.

NIAGARA FALLS, *January 11.*

The most interesting chapter in the annual report of Health Officer Robert Talbott, submitted to Mayor Philip J. Keller yesterday afternoon, was that bearing upon the subject of typhoid fever in the city. The report showed that during the year there had been reported a total of 358 cases of typhoid fever—nearly one for every day in the year. On the subject of typhoid, Health Officer Talbott said:

"Typhoid fever seems to be the bugbear of all diseases in our city, and this year we have almost twice as many reported as we did last year. Is it any wonder that we have so much typhoid within our city? We are drinking water from Niagara River, which is the receptacle of all sewage water from Buffalo and Tonawanda, saying nothing of the polluted streams that empty into Lake Erie. We have voted on the water question, discussed it from all standpoints, spent plenty of money, and are still spending it, and yet our water is contaminated. We have experimented with the different processes and they have been found wanting, but for the sake of suffering humanity let us hope 1912 will put within our reach water that is pure and fit to drink. The past year we have had 358 cases reported, and I trust each physician has done his duty in reporting every case to show how many cases a city of 30,000 population has had during the year 1911.

"Of course, our city has been visited by thousands of tourists, and I know of many who claim they got the dreaded disease while visiting here. Time and time again I have caused to be published in the daily press warning not to drink or use for domestic purposes water taken from the city mains, as it seemed to mean sure typhoid and maybe death, but those notices were not always heeded. Is that a fact our city should be called on the State laboratories have been most active and, indeed, most thorough in the examination of our drinking water, and each month have rendered a report of their findings, and

to them, much as their warnings and labor, have been for the welfare of Niagara Falls' citizens, who are consumers of this water."

Mr. DIFENDERFER. Now in connection with drainage, I would like to ask a few questions that I have mapped out here: About how much has the Chicago Drainage Canal cost, if you can answer that question?

Dr. McLAUGHLIN. I can answer approximately, although I don't have any right to give any information on that point. I think it was about \$70,000,000.

Mr. DIFENDERFER. About how long has it been in operation?

Dr. McLAUGHLIN. It has been in operation since 1900.

Mr. DIFENDERFER. Now can you give the reduction in the percentage of typhoid and other such diseases in Chicago during that period?

Dr. McLAUGHLIN. You will accept approximate figures?

Mr. DIFENDERFER. Yes.

Dr. McLAUGHLIN. For 11 years previous to the installation of that drainage canal the rate of typhoid fever per 100,000 was 56, I think for the 10 years. I think for the last 7 years in Chicago the rates have been only about 17.

Mr. DIFENDERFER. Seventeen per thousand?

Dr. McLAUGHLIN. Per 100,000.

Mr. DIFENDERFER. Dr. Evans is health officer of Chicago?

Dr. McLAUGHLIN. No, sir; a surgeon of our service is now there.

Mr. DIFENDERFER. Was Dr. Evans at any time connected with it?

Dr. McLAUGHLIN. He was health officer up to a year ago.

Mr. DIFENDERFER. Do you know whether he attributes the increase to the purity of the drinking water?

Dr. McLAUGHLIN. The decrease, you mean.

Mr. DIFENDERFER. I meant to say decrease.

Dr. McLAUGHLIN. Yes, sir; I think very rightly so. There wasn't any question but what the diverting of the sewage from the lake front had a great effect in reducing typhoid fever.

Mr. DIFENDERFER. Then, if that is the case, would it not be well for the Niagara frontier to obtain such a result if they could?

Dr. McLAUGHLIN. Provided such results could be obtained without undue cost. The cases are not parallel. I don't see where you can compare a rapidly flowing river with the quiet water of a lake.

Mr. DIFENDERFER. Well, if we continue to take water from the Niagara River 1,500 feet out from the American side, it won't flow as rapidly, will it, as it has been flowing? You reduce the depth, do you not?

Dr. McLAUGHLIN. That would be a very small matter. Almost negligible.

Mr. GARNER. Would the possibility for a slight deflection of the river be less from a canal running from the Niagara River than from the Chicago Canal, because of the greater rapidity with which it would flow?

Dr. McLAUGHLIN. I don't think there would be any difference in the quiet stretches of water behind the canal. Both canals would furnish excellent places for sedimentation.

Mr. GARNER. The river?

Dr. McLAUGHLIN. I don't know. I don't think there would be any great difference.

The CHAIRMAN. We are much obliged to you, Doctor. Mr. Barton is present and will now be heard.

STATEMENT OF PHILIP B. BARTON.

Mr. BARTON. In connection with the questions that are asked me, may I have the privilege of volunteering certain information?

The CHAIRMAN. Yes.

Mr. BARTON. I am manager of the Niagara Falls Power Co.

Mr. Chairman and Gentlemen, we did not intend to make any other statement at this time than that presented by Mr. Brown. I am simply here to answer any questions that the committee may wish to ask.

Mr. SHARP. What position do you hold and whom do you represent?

Mr. BARTON. The Niagara Falls Power Co.; I am vice president and general manager of the Niagara Falls Power Co.

Mr. SHARP. Are you familiar with the equipment for using that power in a mechanical sense?

Mr. BARTON. I am.

Mr. SHARP. It has been said here by different witnesses at different times through this hearing that there was not the efficiency developed that there ought to be in the economical use of this power. If that is true, to what extent is it true—not only in your company, but if you know of the other concerns using power, applying to them also?

Mr. BARTON. The tunnel of the Niagara Falls Power Co. has a loss of about 55 feet—that is, a slope, a difference in level—between the upper end of the tunnel and the lower end, and about 55 feet, which, of course, results in loss in the amount of power that can be developed from the head available between the river above the rapids and the river below the Falls.

Mr. SHARP. Can that be remedied in any way by more efficient equipment?

Mr. BARTON. In connection with second tunnel that we had planned to put in if we should develop our second hundred thousand horsepower, we had under consideration the plan to put in a very much larger tunnel at a lower level, and in that way not only make our second development more efficient than the first but also help the loss of the head in the first tunnel by connecting the old wheel pit with the new tunnel. But we did not develop the second half of our power.

Mr. SHARP. Can you do that with profit with your present diversion of water?

Mr. BARTON. I don't think we could, because the cost of the tunnel and the alteration of the plant would be exceedingly expensive. It is a serious question whether it would be commercially feasible. Possibly it might. But it is a serious question.

Mr. SHARP. What would you say if you had the knowledge of the other companies who use this power, as to their efficiency compared with what it might be made?

Mr. BARTON. I don't know that I ought to speak for the other companies because I have only a general knowledge of their features. I think the hydraulic company is using water about as efficiently as

it is possible to be used with the head they have got. So are we. The companies on the Canadian side are using water about as efficiently as it is commercially possible to use it, considering their location. Of course the reason for this loss of a head with Niagara Falls Power Co., which has been spoken of, I think has been explained. When we built our plant in 1890 one of the very first considerations that our directors had in mind was that there should be no interference of any kind whatever with the scenic features of the Falls. For that reason we placed our plant a mile and a half above the Falls, where it could not be seen by spectators of the Falls, and that necessitated a long tunnel. In order to get water with sufficient rapidity the tunnel was given the necessary slope. At that time there was no question about the amount of water to be used. That was 22 years ago. The amount we could use in any case would be absolutely a negligent quantity so far as the scenic beauty is concerned. As was explained to you the other day by advice of the most eminent engineers that could be found in the world that slope was adopted, and the whole thing was done largely to preserve the scenery, on account of which we are now being criticized for the lack of efficiency.

Mr. DIFENDERFER. What time in the day do you use the most force to create your power or the most water?

Mr. BARTON. Our load is substantially uniform throughout the 24 hours. It is almost a straight line. From midnight until 7 o'clock in the morning there is a slight depression due to the falling off of the load at Buffalo. Between the hours of 4 and 6 o'clock in the afternoon in the fall and winter months there is a decided peak due to the overlapping of the heavy street car traffic and the lighting load when the lighting commences somewhat earlier due to the longer night.

Mr. DIFENDERFER. Then during the day you would consume more water than you would from 12 o'clock to 7 o'clock the next morning, would you not, during daylight?

Mr. BARTON. Yes, sir; slightly, but the difference in effect on the appearance of the Falls is absolutely imperceptible.

Mr. DIFENDERFER. That would be about the time when visitors would like to see the Niagara Falls at its best, wouldn't it?

Mr. BARTON. I presume that is the case; but they couldn't possibly see any difference.

Mr. DIFENDERFER. Then at the time the most water is falling over the Falls would be at the time when they were sleeping.

Mr. BARTON. Theoretically, yes; but our variations are small, and as a matter of fact cause no variations in the depth of water at the crest of the Falls.

Mr. DIFENDERFER. There is one other question I would like to ask in that connection and that is this: How do you measure the water that you take from the Falls, by the hour, or do you measure it by the day—24 hours, is that where you get your measurement from per hour?

Mr. BARTON. The amount is determined by means of half hourly readings of the electric horsepower output on the basis, fixed by the Government engineers, of the relation between output and quantity of water. This then makes accurate measurement every half hour.

Mr. DIFENDERFER. That was done by measurement?

Mr. BARTON. That determination was made by measurement, they determined the relation between the water taken by our plant and the output in electrical horsepower. We keep a continuous record of our output.

Mr. DIFENDERFER. By the hour?

Mr. BARTON. Every half hour, and those records are transmitted to the War Department, and they can see by that data whether at any time we have exceeded the limit.

Mr. DIFENDERFER. Under that agreement, what are you privileged to use?

Mr. BARTON. It wasn't an agreement, it was a requirement of the law. We are permitted to use 8,600 cubic feet per second.

Mr. DIFENDERFER. Have you used that at any time?

Mr. BARTON. Yes, sir.

Mr. DIFENDERFER. The full amount?

Mr. BARTON. We have been using that continuously.

Mr. DIFENDERFER. I believe it is in evidence that the cost of production on the Canadian side is about \$9 per horsepower. Do you care to state what the cost of producing this power—I believe you are a transmitting company?

Mr. BARTON. We are a generating and transmitting company.

Mr. DIFENDERFER. Distributing company, are you?

Mr. BARTON. We distribute to some extent. We distribute to our own customers at Niagara Falls, and on the Canadian side the Canadian Niagara Co. at Bridgeburg and Fort Erie distributes a small amount to consumers.

Mr. DIFENDERFER. I would like you to state to this committee what the cost per horsepower is for generating this electricity.

Mr. BARTON. Our cost last year, 1911—I am not pretending to give the exact accurate figures—was approximately \$14.50 per horsepower.

Mr. DIFENDERFER. Now, you sell that power, do you not, to distributing companies?

Mr. BARTON. We do; some of it.

Mr. DIFENDERFER. Have you any idea what they charge the citizens of Buffalo and Lockport?

Mr. BARTON. The price we charge them?

Mr. DIFENDERFER. Have you any idea what they charge the public? I understand there are three profits that come out of this.

Mr. BARTON. That is a mistake. We sell the Buffalo City line to the Cataract Power & Conduit Co., which takes from us and distributes in Buffalo about 65,000 horsepower.

Mr. DIFENDERFER. Now to whom do they sell?

Mr. BARTON. Of that 65,000 horsepower they sell about 55,000 direct to consumers, and about 10,000 is sold to the Buffalo General Electric Co., which is an electric lighting company, engaged in business long before the Conduit Co. was organized and before we began to deliver power.

Mr. DIFENDERFER. Then it passes through three hands?

Mr. BARTON. The power delivered to the lighting company, which is used only for lighting and running small motors, passes through three hands.

Mr. DIFENDERFER. Then there are, naturally, three profits?

Mr. BARTON. In that case there ought to be.

Mr. DIFENDERFER. I should judge so.

Mr. BARTON. But the investment in that lighting company would have been just the same if there had been only one company.

Mr. DIFENDERFER. Now, of course, when you make up your estimates of cost you include in that your capital invested?

Mr. BARTON. The costs that I gave you?

Mr. DIFENDERFER. Yes.

Mr. BARTON. That includes all expenses, fixed charges, operating charges, cost of transmission.

Mr. DIFENDERFER. What has been the cost of the construction of that plant up to this time?

Mr. BARTON. Taking the whole property of the Niagara Falls Power Co. and the Canadian Niagara Co. on both sides of the river, the actual investment to-day is about \$24,000,000.

Mr. GOODWIN. Do you include in your estimate of cost the interest on the investment?

Mr. BARTON. Yes, sir; if you refer to cost of production, interest on the bonds, etc.; but no interest is included in cost of investment.

Mr. DIFENDERFER. How do you account for its costing so much more than the cost of production on the Canadian side?

Mr. BARTON. What figures do you take as the cost of production on the Canadian side?

Mr. DIFENDERFER. Nine dollars per horsepower.

Mr. BARTON. That is the selling price on the Canadian side, not the cost of production.

Mr. DIFENDERFER. Twelve dollars I understood was the selling price on the Canadian side.

Mr. BARTON. Nine dollars and forty cents is the price at which I understand the Ontario Power Co. sells to the hydroelectric commission.

Mr. DIFENDERFER. Then the cost of producing is about that, as I understand it; they are furnishing it at the cost. Now, the question asked was, How do you account for this difference between the cost of production on the American side and the cost of production on the Canadian side?

Mr. BARTON. I don't admit that \$9.40 is the cost of production on the Canadian side.

Mr. DIFENDERFER. Would you say that they are giving it away for less than cost?

Mr. BARTON. I don't know; I have no information. But, leaving that question aside, it naturally costs us more to generate and deliver on the American side. We have a larger investment because we have a larger tunnel, as I have explained, and for other reasons.

Mr. GOODWIN. How modern is the Canadian company?

Mr. BARTON. The Canadian plants are not complete yet. There are three of them, and none of them actually completed. They were all started at approximately the same time, about 1901 or 1902, I think.

Mr. GARNER. Would you mind telling the committee if there is any water connected with your company outside of what you take from the Niagara River?

Mr. BARTON. You mean in the capitalization?

Mr. GARNER. The capitalization.

Mr. BARTON. I don't think there is, sir.

Mr. GARNER. How did you organize with a capital of twenty-four million to begin with.

Mr. BARTON. The capital stock is about \$5,760,000. The bond issue is a little over \$18,000,000. The original capitalization started was \$10,000,000 of bonds—first-mortgage bonds—and about \$4,000,000 in stock, before the American plant was completed, \$3,000,000 in bonds in addition were issued, making \$13,000,000 and \$4,000,000 in stock for the American plant.

Mr. DIFENDERFER. Now, if your directors should conclude to become distributors in the city of Buffalo, would you consider that you had capital enough to do so?

Mr. BARTON. In that case we should have to raise more capital.

Mr. DIFENDERFER. You could raise it, could you?

Mr. BARTON. I think so.

Mr. DIFENDERFER. Why is it your company does not distribute in Buffalo?

Mr. BARTON. Because there is a distributing company there, and there is no reason to go into competition with them.

Mr. DIFENDERFER. Don't you think so? Don't you think, as a producing company, you could go into competition with them and supply the people of Buffalo with power at less cost per horsepower?

Mr. BARTON. I do not think so. We should have to make the same investment they have made, and I don't see how we could sell power any cheaper.

Mr. DIFENDERFER. Do you know if there is any gentlemen's agreement existing now?

Mr. BARTON. There is more than a gentlemen's agreement. There is a contract. We have specifically agreed not to go in, in consideration of their agreeing to take and pay for a large amount of power at a specified price for a long term of years.

Mr. DIFENDERFER. Does the hydraulic company distribute in Buffalo?

Mr. BARTON. No; they do not.

Mr. DIFENDERFER. Do they sell power as you do?

Mr. BARTON. In Buffalo?

Mr. DIFENDERFER. Yes.

Mr. BARTON. They do not sell any power in Buffalo.

Mr. DIFENDERFER. It is confined principally to Niagara Falls, is it not?

Mr. BARTON. Yes, sir.

Mr. DIFENDERFER. Do you distribute any in Niagara Falls?

Mr. BARTON. We do.

Mr. DIFENDERFER. To big consumers?

Mr. BARTON. About 80,000 horsepower.

Mr. DIFENDERFER. Does the hydraulic company infringe upon your territory in the neighborhood of Lockport?

Mr. BARTON. We have no territory.

Mr. DIFENDERFER. You distribute in Lockport?

Mr. BARTON. We do not.

Mr. DIFENDERFER. To whom do you sell?

Mr. BARTON. We sell power to the International Railway at Tonawanda. It has a transmission line going through Lockport.

Mr. DIFENDERFER. They supply Lockport?

Mr. BARTON. They do not. They use power for their own railway purposes.

Mr. DIFENDERFER. Who distributes power to Lockport?

Mr. BARTON. I understand there is a local company there the name of which I have forgotten.

Mr. DIFENDERFER. Do you know who furnishes them with their power?

Mr. BARTON. They get some of their power from the Niagara & Lockport and Ontario Power Co.

Mr. DIFENDERFER. Do they get any from you?

Mr. BARTON. They do not.

Mr. SHARP. I may have misunderstood you, but in your reply to Mr. Goodwin in reference to the companies on the Canadian side, did you state that they had not completed their equipment over there yet?

Mr. BARTON. None of their plants are as yet completed.

Mr. SHARP. They are supplying power there, are they not?

Mr. BARTON. Yes, but they are not completed to their ultimate capacity.

Mr. SHARP. What will be their ultimate capacity with reference to the taking of the amount provided for under the treaty on the Canadian side?

Mr. BARTON. They would take the entire 36,000 cubic feet.

Mr. SHARP. Now, they are simply supplying it as they can find sale for it?

Mr. BARTON. That is all.

Mr. SHARP. They will build up to that demand as fast as it grows?

Mr. BARTON. Yes; I am speaking for the Canadian Niagara Co. when I say that, and I presume other companies are in the same position.

Mr. SHARP. How many thousand cubic feet per second are they actually using?

Mr. BARTON. I have forgotten the exact figures. They are all recorded in the reports. I think the Army engineers got those. I should say somewhere in the neighborhood of 18,000 cubic feet per second—about half of the amount I should say, speaking roundly.

Mr. SHARP. Are you in favor of the importation of this power to the United States?

Mr. BARTON. Yes, sir.

Mr. SHARP. Do you think any arrangement could be made whereby a fixed amount of power imported into this country could be given a definite lease of duration, so that with the increasing demand on the Canadian side it would again be diverted back to Canadian industry?

Mr. BARTON. I don't think that would be practicable, because Canada could at any time prohibit the exportation of the power, but I don't think there is much danger of their trying it.

Mr. SHARP. So that it would be simply a question of getting a benefit that might be temporary on this side?

Mr. BARTON. It might be temporary with this in mind, that if the power is once brought over here and is actually used in industries the Canadians would be much less apt to say you shall stop bringing that power in than they would to say you shall not send over any more power than you are now sending. I think it is a great advantage to get power over here before it is preempted by Canadian industries.

Mr. SHARP. What company would get that power?

Mr. BARTON. You mean on this side?

Mr. SHARP. On this side; that was imported.

Mr. BARTON. So far as the Canadian Niagara Co. is concerned, the Niagara Falls Power Co. would take what was imported at Niagara Falls and distribute it to its customers there.

Mr. SHARP. Have any of these companies, including your own, made any tentative arrangement with the Canadian company to take any imported power that would be allowed to come in on this side?

Mr. BARTON. You mean the American companies?

Mr. SHARP. Yes.

Mr. BARTON. Not that I know of.

Mr. SHARP. There is no understanding at all?

Mr. BARTON. No.

Mr. SHARP. How would that be regulated—have you given that fixing question any consideration as to how they would get that power for distribution?

Mr. BARTON. I think that would be a matter of contract between the producing company and the distributing company.

Mr. SHARP. With your equipment for distribution and that of the other American companies, it is quite likely that the existing companies would get that power imported?

Mr. BARTON. The existing distributing companies?

Mr. SHARP. Yes.

Mr. BARTON. That would be the natural development, I should say.

Mr. SHARP. Is it your opinion, after having given this subject much consideration, that there would be any such competition by the importation companies as would lower the rate to the ultimate consumer on this side of the water?

Mr. BARTON. I think the tendency to lower the rate perhaps would not result so much from competition as it would from the increased volume of the product. Speaking of Buffalo, it is the only way I see, practically speaking, that Buffalo has any hope of getting a lower price for power is by increasing the volume of the power that the Cataract Power & Conduit Co. is enabled to sell, and that must be done by bringing it in from Canada.

Mr. SHARP. How long would it take for the present demand for increased power on this side of the water to practically absorb all that would be imported?

Mr. BARTON. I think it would be much faster than it can be developed.

Mr. DIFENDERFER. The Ontario Power Co. is a Canadian corporation, as I understand it?

Mr. BARTON. That is my understanding.

Mr. DIFENDERFER. They supply—the Niagara & Lockport Co. is the transmitting company, is it not?

Mr. BARTON. That is my understanding.

Mr. DIFENDERFER. Is there any connection between these two companies that might be considered favorable one with the other?

Mr. BARTON. I have no information.

Mr. DIFENDERFER. Gen. Green is vice president of the Ontario Co., is he not?

Mr. BARTON. I believe he is.

Mr. DIFENDERFER. That power is created on the Canadian side, is it not?

Mr. BARTON. It is.

Mr. DIFENDERFER. Isn't he president of the Niagara, Lockport & Ontario Co.?

Mr. BARTON. He is right here. I think that is the case, isn't it, General?

Mr. DIFENDERFER. If he is, that would show some close relationship, would it not?

Mr. BARTON. It would indicate that to me.

Mr. DIFENDERFER. This Niagara-Lockport Co. is the distributing company for the Ontario Co., is it not?

Mr. BARTON. That is my understanding.

Mr. DIFENDERFER. They take the product at the center of the river, as I recall the testimony given here.

Mr. BARTON. I think that was the statement made.

Mr. DIFENDERFER. From whom do they take it?

Mr. BARTON. From whom does the distributing company take the power?

Mr. DIFENDERFER. Yes.

Mr. BARTON. From the Ontario Co.

Mr. DIFENDERFER. In the center of the river?

Mr. BARTON. I don't know anything about it. I have nothing to do with that company.

Mr. DIFENDERFER. I thought possibly you might know, being pretty closely connected.

Mr. BARTON. Only know as much as anybody about the place knows.

Mr. DIFENDERFER. Have you any information regarding the McKenzie Mann Co., on the Canadian side?

Mr. BARTON. The electrical development company?

Mr. DIFENDERFER. Yes.

Mr. BARTON. I have some general information about it.

Mr. DIFENDERFER. Do you know why they refused to send this power to the United States under the agreement?

Mr. BARTON. I think I explained that the other day, as far as my knowledge goes. They did distribute and sell some power to come into the United States for a period of three years. They had four generators installed and as their load in Toronto increased about a year ago they needed the power of all of those machines to supply their own load in Canada, so that at the termination of the three years' agreement they said that they didn't wish to renew it, and the importation was stopped.

They are now putting in three additional machines, as I understand it, and an arrangement has been made by the Cataract Power & Conduit Co. and Electrical Development Co., which is a practical renewal of that contract, so that as soon as one of these generators is started, they will be utilizing their permit again.

Mr. DIFENDERFER. You said a little while ago that there was more than a gentlemen's agreement existing between your company and the distributing company.

Mr. BARTON. We have relations with only one company in Buffalo.

Mr. DIFENDERFER. There was more than a gentlemen's agreement with that company that you had the contract with. That contract precludes your doing business as a distributing company in Buffalo?

Mr. BARTON. It does, in the way I have stated.

Mr. DIFENDERFER. Return again to the Ontario company.

Mr. BARTON. It is only fair that it should, because we could ruin that company by going in there and competing with them.

Mr. CLINE. Because you could produce it cheaper?

Mr. BARTON. Because we control the whole thing. We could sell power for less than the cost, for example.

Mr. CLINE. I wouldn't presume that you would do that.

Mr. GOODWIN. Wouldn't the public be benefited?

Mr. BARTON. By the competition you mean?

Mr. GOODWIN. By you.

Mr. GARNER. Refusing to sell them power.

Mr. BARTON. Only temporarily. We couldn't sell it cheaper than they do because we would have to have the same investment.

Mr. GOODWIN. Replying to a question by Mr. Sharp, did I understand you to say that the importation of Canadian power would have a tendency to regulate the price?

Mr. BARTON. I said I thought it would tend to produce a lower price by increasing the volume.

Mr. GOODWIN. In other words, the price would be governed somewhat by supply and demand.

Mr. BARTON. No, sir; not exactly that. What I meant is, it is a general law that if you can produce a thing in larger quantities it can be produced cheaper per unit than you can by producing it in small quantities.

Mr. GOODWIN. But following that, you also said that you thought the consumption at least would be as rapid as the importation?

Mr. BARTON. Yes, sir; that is true.

Mr. GOODWIN. That there would not be much cheapening?

Mr. BARTON. If the law of supply and demand were to hold sway there would be no cheapening.

Mr. GOODWIN. But having a monopoly, there would scarcely be any difference.

Mr. BARTON. These companies are all under the supervision of the public-service commission, which watches those things very closely, and if it were shown at any time that their profits were exorbitant, it would have to be reduced.

Mr. DIFENDERFER. I noticed the city of Buffalo has appropriated \$35,000 to put them in a position to ask for those things.

Mr. BARTON. I understand that is the case. Complaint has been made.

Mr. DIFENDERFER. If it requires that much to ask a question, how then can an individual have any hope in propounding any questions? It seems to me as though it were rather complicated to reach that commission.

Mr. BARTON. Any individual has got to prove his case.

Mr. HARRISON. I want to ask you if any directors of your company are interested in the distributing company that you have a contract with.

Mr. BARTON. The company as a whole owns a controlling interest in the stock of the distributing company. It is different from the generating business. It is more convenient to organize the thing in that way.

Mr. CURLEY. About how much property do you pay taxes on, either at Buffalo or Niagara?

Mr. BARTON. Well, we pay taxes on all of our property everywhere.

Mr. CURLEY. About how much?

Mr. BARTON. At Niagara Falls last year the tax bill was \$175,000; I can't give you the figures about the other companies.

The CHAIRMAN. That was the local real and personal property tax to the city?

Mr. BARTON. Niagara Falls.

The CHAIRMAN. A local tax to Niagara Falls?

Mr. BARTON. The city tax was about \$130,000 and the rest was State and Federal income tax and one or two others.

Mr. CURLEY. A total taxation of \$175,000?

Mr. BARTON. Yes.

Mr. CURLEY. What proportion of that was paid at Niagara Falls?

Mr. BARTON. All paid at Niagara Falls. \$130,000, about, was the city proportion.

Mr. CURLEY. What is the tax rate there?

Mr. BARTON. The city tax rate is about 20 mills.

The CHAIRMAN. You pay no franchise tax?

Mr. BARTON. Yes; we have a franchise tax, also.

The CHAIRMAN. Will you explain that, please?

Mr. BARTON. We occupy certain property in the public streets at Niagara Falls with conduits and cables, and we are assessed on the valuation of that property and pay a tax to the city.

The CHAIRMAN. The fact I desire to develop is that you pay no franchise tax for your permit to the Federal Government and no franchise tax to the State of New York?

Mr. BARTON. We furnish the State of New York all the power that is needed by the park commissioners for lighting, heating, and power in the State reservation of Niagara. We also furnish without charge all the water that is needed in the State park.

Mr. CURLEY. What is your figure for the total investment at Niagara Falls?

Mr. BARTON. \$24,000,000.

Mr. CURLEY. Yet you pay at Niagara Falls, according to your statement—

Mr. BARTON. Investment at Niagara Falls—I didn't understand; Niagara Falls in New York, our investment is \$16,500,000.

Mr. CURLEY. You only pay taxes on about \$6,500,000.

Mr. BARTON. That is, the real assessed value in the city of Niagara Falls is \$6,500,000.

Mr. CURLEY. What other benefit does the business of the United States derive from the fact that these various companies that you represent other than the \$175,000 that is received in taxation? Is there any other that you can think of?

Mr. BARTON. They get the benefit of the power at a very low rate, and power fosters and promotes industries.

Mr. CURLEY. Do you think a very low rate is a rate that is nearly three times as large as that which is charged in Canada for the same class of power?

Mr. BARTON. I think the rates we sell power at are low rates, and they are not three times the price of power as sold in Canada.

Mr. CURLEY. I understood that in Canada they sell power for \$12 per horsepower and in Buffalo it is \$36 according to the figures given here the other day.

Mr. BARTON. I think those figures are not comparable; in the one case you have power at a power house right as it comes from the generators at a high voltage, and in the other case you have the power delivered at the premises of the consumer after undergoing a process of transformation and distribution and through underground conduits. There is the transformation sometimes three times. To compare those prices is about the same as comparing the ton price of pig iron with the price of nails per ton. One is the raw and the other is the finished product.

Mr. CURLEY. Is there more power sold on the Canadian side than on the American side of the Falls?

Mr. BARTON. No; there is less sold on the Canadian side at present.

Mr. CURLEY. Didn't you state a few minutes ago that the greater the volume of power the companies could produce the lower the price at which they could distribute it?

Mr. BARTON. I was referring then to the distribution cost mainly. The distributing company of Buffalo has a large investment in a distributing plant which is capable of distributing more power than it is now distributing and I suppose that as that volume increases the distribution cost per unit will be reduced. The same thing applies to generating. If you have an investment in a plant of 100,000 horsepower and only are turning out 50,000, you have got to pay fixed charges on the entire development on an income from the 50,000 horsepower.

Mr. GARNER. Let me see if I get your statement correct. You represent the Niagara Falls Power Co.?

Mr. BARTON. Yes, sir.

Mr. GARNER. That generates the power?

Mr. BARTON. Yes, sir.

Mr. GARNER. Then you represent, rather the stockholders in that company represent, the transmission company that takes it to Buffalo?

Mr. BARTON. No; there is no separate company. The generating company transmits to Buffalo.

Mr. GARNER. Then the Niagara company owns the controlling interest in the distributing company in Buffalo.

Mr. BARTON. That is true.

Mr. GARNER. Then the company that generates the power owns the controlling interest in all of the companies up to the consumer?

Mr. BARTON. No; the lighting business is taken care of by a separate company.

Mr. GARNER. Now, the public-service commission of the State of New York has power to regulate your prices?

Mr. BARTON. It has.

Mr. DIFENDERFER. Has it ever exercised that power that you know of?

Mr. BARTON. In our case?

Mr. DIFENDERFER. Yes, sir; in any case.

Mr. BARTON. It has exercised it in some cases, but not as to our companies.

Mr. GOODWIN. Lowered the rate?

Mr. BARTON. Yes, sir.

Mr. GOODWIN. To what extent?

Mr. BARTON. I say lowered the rate; I am not speaking through my personal knowledge. I understand the commission has investigated a number of cases and that in some cases it has reduced the rate. I can't give any case in which it has lowered the rate.

Mr. GOODWIN. Let us get back to the question of taxes paid last year. Did you say the total taxes paid by your company aggregated \$175,000?

Mr. BARTON. That is the generating company at the city of Niagara Falls.

Mr. GOODWIN. That is the company that you are vice president and general manager of?

Mr. BARTON. Yes, sir.

Mr. GOODWIN. Did that \$175,000 include the amount of taxes that the Niagara Falls Power Co., of which you are the general manager, has in the distributing company?

Mr. BARTON. No; they pay taxes besides that on their own property.

Mr. GOODWIN. The \$175,000 was exclusive?

Mr. BARTON. Exclusive of the other company and also exclusive of our property outside of the city of Niagara Falls. We pay taxes in every bailiwick through which the transmission line passes.

Mr. DIFENDERFER. What is the assessed valuation of your property at Niagara Falls?

Mr. BARTON. Over \$6,000,000.

Mr. DIFENDERFER. The reasonable value you claim is \$16,000,000?

Mr. BARTON. That is our investment in the city of Niagara Falls.

Mr. DIFENDERFER. That is rather a low assessment, is it not?

Mr. BARTON. As compared with other assessments at Niagara Falls it is higher than some others.

Mr. CLINE. Do you mean to say that the New York commission fixes the exact price, or does it fix a maximum price for you?

Mr. BARTON. The public service commission?

Mr. CLINE. Yes.

Mr. BARTON. I understand that after investigating a given case it determines whether the rates charged are fair and reasonable, and if it concludes that they are not reasonable it reduces the rate.

Mr. DIFENDERFER. What do you mean by a given case?

Mr. BARTON. Any case brought to them by complaint.

Mr. DIFENDERFER. Give us the case. Is it one of your own? Who furnishes this case?

Mr. BARTON. We have no reduction. The case would be furnished by the people who complain against the rate.

Mr. DIFENDERFER. I understand there are no individual complaints.

Mr. BARTON. In our case, you mean?

Mr. DIFENDERFER. Yes.

Mr. BARTON. No; I was discussing a general proposition.

Mr. CLINE. I want to ask for information whether the commission fixes the maximum price that you charge or whether it fixes the identical price at which you should distribute power.

Mr. BARTON. It fixes a maximum. I don't think they prevent you from charging any lower rate.

Mr. SHARP. In all cases that maximum rate is identical with the rate charged.

Mr. BARTON. I should think it would be.

The CHAIRMAN. Which company paid the larger amount of money for taxes to the city of Niagara Falls, the Niagara Falls Co. or the hydraulic company?

Mr. BARTON. The Niagara Falls Co.

The CHAIRMAN. Why?

Mr. BARTON. Because we are assessed at a higher valuation.

The CHAIRMAN. Because it owns more real property in the city?

Mr. BARTON. That is the theory, I think. Most of it is on our plant, \$5,000,000 is on our plant.

Mr. BROWN. By one or two questions I think I can bring out certain information that the committee would be interested in.

Mr. BROWN. Mr. Barton, at what cost is the power on the Canadian side delivered to the Province of Ontario by their commission over there?

Mr. BARTON. \$9.40.

Mr. BROWN. Now, at what price does the developing company deliver power in bulk at, we will say, the limit of the city of Buffalo?

Mr. BARTON. That is, our company in one case.

Mr. BROWN. Yes.

Mr. BARTON. \$16.

Mr. BROWN. In what manner is that power which is sold by the commission on the Canadian side at \$9.40—at what place is that power taken?

Mr. BARTON. I understand it is at the generating station, the generated voltage.

Mr. BROWN. Who pays for the transmission lines, the cost of the transmission line to the point where it is delivered to the city.

Mr. BARTON. The hydroelectric commission.

Mr. BROWN. Included in this cost of \$16 you get at the limits of the city of Buffalo, what is the difference in the conditions from the conditions at which power is delivered at \$9.40 on the Canadian side?

Mr. BARTON. I think I can answer that best by stating the price quoted by the hydroelectric commission.

Mr. BROWN. What does your company do before you charge this \$16 that is not done on the other side?

Mr. BARTON. The same thing, precisely. We step up to a high voltage and transmit it to the point of delivery.

Mr. BROWN. In other words, that cost of \$16 includes transmission across the river from your power plant up the river to the city limits.

Mr. DIFENDERFER. Suppose you do not take it from the Canadian side?

Mr. BARTON. The same thing; we step up and transmit.

Mr. BROWN. You transmit to the city limits of Buffalo?

Mr. BARTON. Yes, sir.

Mr. BROWN. What effect is that distance, as to whether it is expensive transmission?

Mr. BARTON. Twenty-two miles on the Canadian side and 18 miles on the American side.

We have two separate pole lines with three separate transmission circuits. On the Canadian side we have two pole lines with three separate independent circuits.

Mr. BROWN. The difference here between the two costs—that is, the cost to the Canadian side taken at the power house and the cost on the American side taken at the city limits—is approximately \$6. Now, whether considering the extra cost of transmission, and the extra cost for the investment for transmission appliances, is that a fair rate, is that extra \$6 any more than necessarily reasonable to cover the difference in cost?

Mr. BARTON. I don't think it is.

Mr. BROWN. On the Canadian side the Canadian commission has taken this bulk quantity of power at the plant on the Canadian side and transmitted it to consumers. You have spoken about a place, Bridgeburg, where the Canadian commission transmits and delivers to consumers.

Mr. DIFENDERFER. The hydraulic commission you have reference to?

Mr. BROWN. I mean that. What is that?

Mr. BARTON. It is the hydroelectric commission. It does not transmit to Bridgeburg, but the business men at Bridgeburg asked the commission to quote them a price. Our transmission lines to Buffalo run through both of those villages. They wanted to get some power from us but they were afraid that we were going to charge them too much so they asked the Canadian commission for a price, and the price quoted by the commission was a sliding scale. The village could only use less than 100 horsepower to begin with. The commission said it wouldn't transmit less than 200 and the price quoted was \$37.81 per horsepower delivered at the high tension in the village of Bridgeburg, and the municipality had to take the power and transform it and distribute it.

Mr. DIFENDERFER. How far is Bridgeburg from the power plant?

Mr. BARTON. Twenty-two miles from Niagara Falls. We are selling power at Buffalo at \$16 under those conditions precisely.

Mr. BROWN. Take the retail price to the consumer that exists at Toronto, and that at Buffalo to the consumer. Generally speaking, how do they run?

Mr. BARTON. I understand the rate established by the hydroelectric commission for power in Toronto in some cases is lower than the Buffalo rate to consumers, and in some cases they are higher. Taking the rates of the Cataract Power & Conduit Co. as a whole, I am told that the application of the Toronto rate to customers would result in a substantially larger income to the distributing company.

Mr. DIFENDERFER. The hydroelectric commission, as I understand it, transmit their power for \$12, do they not, a horsepower, in some instances?

Mr. BARTON. I think for less than that in some.

Mr. DIFENDERFER. Well, I am taking \$12 as a maximum.

Mr. BARTON. The maximum cost or selling cost?

Mr. DIFENDERFER. The selling cost—\$9.40. What they get it for.

Mr. BARTON. I don't know of any case in which they are selling for \$12. The price at Toronto, I understand, is about \$18, that is, the transmission price.

Mr. DIFENDERFER. Toronto, what is the distance?

Mr. BARTON. About 90 miles. That is not the price—

Mr. BROWN. Is that the price to the city line or the price to the consumer?

Mr. BARTON. At the city line. At transmission line voltage.

Mr. BROWN. How far is it from Niagara to Buffalo?

Mr. BARTON. Twenty-two miles.

Mr. DIFENDERFER. They charge the same price for 90 miles as you do for 22.

Mr. BARTON. Their price is \$18, our price is \$16.

Mr. DIFENDERFER. Two dollars difference.

Mr. BARTON. Two dollars difference, in our favor.

Mr. BROWN. State generally, so that the committee may have an idea, since your company and these other companies were furnishing power in Niagara Falls, what has been the development in industries in that city under the price at which you furnish power?

Mr. BARTON. I would say that the population of the city of Niagara Falls has grown from 1890 up to the present time from about 8,000 to about 35,000, and that has been entirely due to the development of power at Niagara Falls.

Mr. DIFENDERFER. At Niagara Falls, you speak of?

Mr. BARTON. Yes, sir.

Mr. DIFENDERFER. Alone?

Mr. BARTON. Alone.

Mr. DIFENDERFER. Isn't it a fact that the Hydraulic Power Co. have that as their territory? They do not distribute to any other point than that particular point.

Mr. BARTON. That is true.

Mr. DIFENDERFER. Is there competition there?

Mr. BARTON. There is.

Mr. DIFENDERFER. Between your company and the other company?

Mr. BARTON. There is.

Mr. DIFENDERFER. Do you charge any less there, or do they charge any less than you?

Mr. BARTON. I don't know what their prices are.

Mr. DIFENDERFER. Or are they the same?

Mr. BARTON. I don't know what their prices are; I have no information.

Mr. BROWN. It has been stated by the statistics that from about 1900 to about 1904 or 1905 the value of manufactured output by industries at Niagara Falls increased from \$8,500,000 up to \$16,900,000. Have you statistics showing what the increase was in the value of output by these industries between 1904 and 1909?

Mr. BARTON. Increased to \$28,600,000. An increase of about 80 per cent in five years.

Mr. BROWN. I understand the consumers complained in regard to rates for the New York commission—that is, by the consumers, they have to be signed by 100 consumers.

Mr. BARTON. That is my understanding.

Mr. DIFENDERFER. Who makes that rule?

Mr. BROWN. Do you know of a complaint being made and signed by 100 consumers?

Mr. DIFENDERFER. Is that the commission rule?

Mr. BARTON. That is the rule.

I might say in regard to that there has recently been served on the Cataract Power Co. and on us—it has been stated in Buffalo the customers of a distributing company could not serve a complaint on a generating company. That may be the law, but a complaint has been served on us. We have been notified to give an answer within

20 days. That complaint was signed by 150 citizens of Buffalo, and out of those three were customers of the Cataract Power & Conduit Co.

Mr. BROWN. Who were the others?

Mr. BARTON. I don't know.

Mr. BROWN. They were not consumers?

Mr. BARTON. Not consumers.

Mr. BROWN. Customers of the lighting company?

Mr. BARTON. I think they were.

A MEMBER. May I ask if any of the stockholders of your company are interested in that company?

Mr. BARTON. I can't say, but I think some persons there are interested in both companies.

Mr. DIFENDERFER. They are interested in all of those companies, are they not? Possibly that is your answer to there not being a gentleman's agreement. That may be your answer to that proposition. It isn't necessary.

Mr. BARTON. Why should there be a gentleman's agreement? Is there anything that is secret? The whole thing is open and above board. There is a lighting company doing business there. They were there, and there is no reason why we should duplicate their investment.

Mr. CLINE. Then those who have these other two companies—members of your company that have an interest in these other two companies you speak of—also share three different profits, do they not?

Mr. BARTON. I presume that is the case, but three different profits, each of which represents a different investment.

Mr. BROWN. Has the Niagara Falls Power Co. or the Cataract Co. any controlling interest in this electrical company, the lighting company?

Mr. BARTON. None whatever.

Mr. BROWN. The common interest is simply the result of accident that one stockholder may hold some stock in both.

Mr. BARTON. It came about in this way: When the Niagara Falls Power Co. was organizing a distributing company in Buffalo, the lighting company was asked whether it wanted to buy all this power that we were going to furnish to Buffalo, and it decided it wouldn't take the risk. Its directors thought it wasn't wise to involve the property of their shareholders in that project. But one or two of the gentlemen interested in the lighting company took the matter up and undertook to organize a local distributing company in Buffalo, and that was done.

Mr. BROWN. State, Mr. Barton, what has been the dividends paid by the Niagara Falls Power Co. down to the present time.

Mr. BARTON. In 22 years the company has paid eight dividends of 2 per cent each.

Mr. DIFENDERFER. What are the salaries of the gentlemen who are interested in this—then we will come nearer the profit?

Mr. BARTON. They are inadequate, I should say. They are on record in the files of the public-service commission, if you are interested.

The CHAIRMAN. I received a telegram from the Rev. Dr. Lyman Abbott, editor of the Outlook. If there is no objection it will be

read and incorporated in the hearings. The telegram reads as follows:

NEW YORK, January 25, 1912.

HON. WILLIAM SULZER,

Chairman House Committee on Foreign Affairs, Washington, D. C.:

May I urge upon you favorable consideration of the joint resolution for the extension of the provisions of the Burton Act for the preservation of Niagara Falls? I believe that Congress should take this action for three reasons: First, Congress has already decreed that Niagara Falls shall be preserved by the Federal Government; second, the report of the Army engineers has shown that the Falls are already injured and are in danger of further injury; third, the Burton Act has proved itself an effective instrument for the protection of Niagara.

LYMAN ABBOTT.

STATEMENT OF PROF. JAMES HENRY HARPER.

The CHAIRMAN. Mr. Harper, you may proceed.

Prof. HARPER. I do not represent any interest in this large question, except the 90,000,000 people in the United States.

I want to contribute, if I can, a little light to the subject of the preservation of the Falls. As a preliminary proposition, I believe you have some pictures here showing the run-off of the Falls at the time when it was the lowest rainfall within the lifetime of any individual present. I want to make that very prominent.

We are passing just at the present time the crest of a drought greater than that within the knowledge of any man living here or likely to be. These periods of minimum rainfall occur largely and affect largely the interior, and consequently have a very pertinent effect upon the flow of the Niagara Falls, because it is entirely the drainage of the table-lands in the territory back in the interior that the Falls depends upon for their flow.

With that I have been preparing some figures on this, the history of the rainfall and the drought, which will be published, I suppose, but I want to state that we have just passed or are passing that period of three years of maximum drought. This is the crest of that period, and that will not occur again within the lifetime of any individual here.

The CHAIRMAN. Has the rainfall, so far as you have been able to find out, increased or diminished along the Great Lakes for the past 60 years?

Prof. HARPER. The rainfall has necessarily decreased because we have cut away nature's sponge, the diminution of the timber supply around that area has been the largest factor, and the prime factor in the diminution, if there has been any, the run-off at the Falls. I have no interest in them, nor do I hold any briefs for a power company of any kind.

The CHAIRMAN. Is it your observation that the Great Lakes are receding?

Prof. HARPER. Not at all. The rainfall period will determine the volume of run-off and the very fact that there are some large impoundments of water and large power development which 20 years ago were not in evidence at all in that territory, has contributed materially to a bettering or steadying this flow of Niagara. As a matter of fact the power development that Niagara now has contributes to the flow of Niagara. The power development and the

impoundment of water in those areas has helped to relieve the situation that the cutting off the timber has brought about, and the more power development, the larger impoundment of water taken care of at the low stages. In other words, the larger power development that takes place back of Niagara Falls the steadier will be the flow of Niagara Falls. It is only during the low period that people are talking about the preservation of the Falls, or anyone else is interested. The run-off wouldn't be reduced in inches appreciably if there were to be another 20,000 feet of water taken there.

Mr. SHARP. Do you claim that the cutting away of timber diminishes the rainfall?

Prof. HARPER. Certainly not, only the rainfall, not only the natural precipitation, but it immediately puts that water on its way.

Mr. SHARP. I understand that, but in what way does it diminish the actual precipitation, the cutting away of the timber?

Prof. HARPER. That would call for quite an extended observation, but in simple terms anything that destroys the sponge, nature's sponge for the retention of that rainfall, affects the run-off.

Mr. SHARP. I understand that, but what—

Prof. HARPER. The cutting off in timber has brought about a lessening in the carrying power that is within the basin, we will say, of these Great Lakes, and a lessening of the precipitation, and it has thrown the precipitation closer to the coast line. Our precipitation here in Washington will be sustained and at times in New York during the crest of this drought the precipitation in New York was phenomenal, but that was the result of the precipitation being carried farther inland in drought periods. Nature proved that. During a number of years the precipitation has been nearer to the coast line. And that is a sort of a balance. Nature provides for that.

Mr. SHARP. Does it diminish the precipitation from the clouds, the cutting away of the forests? I can understand how the forest acts as a sponge and retains the moisture and that it doesn't flow away so rapidly, but I would like to know how it interferes with the amount of precipitation, because I understood that there is a good deal of controversy on that subject, and I would like to get your view of just why that action takes place.

Prof. HARPER. There is a wide difference of opinion even among the scientists on that subject, but I might give you an opportunity to speculate a little bit on that subject by stating some conclusions that I have arrived at myself in dynamics, which govern primarily the periods of greater and lesser precipitation.

The sun, which is our center of energy, is a large magnetic mass, not in combustion, and bearing no relation to the ancients of the fiery furnace, but simply a magnetic mass. That source of energy is magnetic, entering our sphere and causing the phenomena of lightning and the extreme local phenomena of caloric energy. The caloric energy determines the rainfall and the growth of plant and animal life. That is the basis of some research work that has been going on on my part for over a third of a century, and the basis of the prediction on my part that we were to pass through a drought period by reason of the occurrence of the sun spots. I made some mathematical calculations of that.

I had a photograph made of the sun spots and discovered that we would have a diminution, possibly, mathematically determined, per-

haps as high as 5 per cent of the sun's energy. That brings about a drought period. That controls the whole operation.

Mr. SHARP. So the existence of sun spots has to do with disturbances of the atmosphere?

Prof. HARPER. Not only the atmosphere, but seismic, pestilence, drought, famine, and others.

Mr. SHARP. The sun spots, you think, were the primary cause?

Prof. HARPER. Yes, sir; and some others.

Mr. SHARP. What relation has the lessening of the forests to the production of sun spots?

Prof. HARPER. Now you have got a subject that is large enough for—

Mr. SHARP. I studied it myself for 30 years, and I think I know something about that question, and I was curious to get your views on the same.

Prof. HARPER. You had got enough to make deductions that any good mathematician could make and our good astronomers. Scientists have really accepted that theory.

Mr. SHARP. Professor, I don't think I will take issue with you on the connection of the sun spots with the phenomena that we see here, but I have long been of the opinion that the mere cutting away of the forests has very little to do, if anything, with the actual precipitation and the moisture; not with the holding it back, but that the cutting away of the timber lessens the precipitation and the moisture it would seem to be rather a far-fetched conclusion.

Prof. HARPER. It does really lessen it—

Mr. SHARP. There is some doubt that it has anything to do with it at all.

Prof. HARPER. Not to my mind. I think if you follow my—

The CHAIRMAN. Mr. Harper, get down from sun spots to this mundane sphere, and tell us what you have to say about this legislation.

Prof. HARPER. I thought that statement to you, gentlemen, that the relation of the scenic beauty of the Falls to the present employment of water for power which has been carefully determined by very good and competent engineers—the run-off can be had without any apparent effect upon the Falls, and as I have endeavored to show, and which is deducible to mathematical terms at the present, there has been an extreme diminution of rainfall on the table-lands, and the scenic beauty of the Falls during the year just past hasn't been materially affected. The few thousand or more feet run-off that is called for by the bill wouldn't have any effect at all.

I desire to speak further upon the proposition of the impoundment of water. George Washington had a plan for impounding in large basins the water of the Potomac River, and he proposed slack-water navigation for two purposes—for power and navigation and for control—it is one of the most intelligent briefs on the subject that we have got, including the best of our engineers for a hundred years since.

The CHAIRMAN. George was a great man.

The committee will now take a recess until 2 o'clock, and the hearings will be closed this afternoon. The committee has been very patient and courteous to all of the gentlemen who have come here, and we have tried to give you as much latitude as possible to get

your view on the legislation which is before the committee. This committee is very busy, and we must close these hearings this afternoon. We will go on from 2 o'clock until 5, three hours, and I hope you gentlemen who want to be heard will get together and agree about how much time you want.

Mr. CURLEY. I was going to ask that a part of the report compiled by Dr. McLaughlin in his report, on page 47, be included in his remarks, that portion relative to distribution of typhoid fever in the State of New York.

GEOGRAPHICAL DISTRIBUTION OF TYPHOID FEVER IN THE STATE OF NEW YORK.

In the cities of New York State with good water supplies the typhoid death rate is low, as shown by the following table:

Cities.	Rate per 100,000 of population.	
	1909	Average for 10 years.
New York.....	12.7	17.0
Rochester.....	8.6	13.7
Syracuse.....	11.1	14.8
Binghamton.....	13.1	20.9
Utica.....	15.8	17.3
Olean.....	11.1	18.5
Amsterdam.....	11.9	18.6
Johnstown.....	.0	17.1

On the other hand, those cities using unfiltered water from contaminated rivers have a high typhoid rate:

Cities.	Average rate per 100,000 of population for 10 years.	Source of supply.
Niagara Falls.....	129.1	Niagara River.
Cohoes.....	83.8	Mohawk River.
Lockport.....	51.5	Erie Canal and recently Niagara River.
Oswego.....	49.8	Oswego River.
Ogdensburg.....	48.5	Oswegatchie River.
North Tonawanda.....	34.1	Niagara River.
Tonawanda.....	31.5	Do.
Rome.....	21.7	Mohawk River until 1909, now Fish Creek.

Thereupon, at 12 o'clock, the committee took a recess until 2 o'clock p. m.

AFTER RECESS.

The committee reconvened, pursuant to the taking of recess, at 2 o'clock p. m.

STATEMENT OF RICHARD B. WATROUS.

The CHAIRMAN. Mr. Watrous, you can proceed. Do you want to put that document in the record as part of your remarks?

Mr. WATROUS. Yes, sir. As part of the remarks of Mr. McFarland.

Mr. Chairman and gentlemen, by reason of the fact that we have had access to House Document No. 246, only after the closing of the hearing held on Tuesday last, we find it necessary to present to you, in summarized and easily understandable form, the exceedingly important information contained in that document, entitled "Preservation of Niagara Falls," which has a vital bearing on the legislation before you.

1. In this document there has been collected and presented for the first time, by the engineers of the lake survey, authoritative information to show exactly the conditions prevailing at Niagara Falls up to the comparatively recent date of June, 1911. On pages 15 and 16 of this Document 246 are given details as to power produced from Niagara water, on both sides of the international border.

It appears that the two power plants operated on the United States shore were producing in June, 1911, a total of 165,010 electrical horsepower, and that the three power plants operated on the Canadian shore were producing, at the same time, 133,000 horsepower. The aggregate represents a total production of 298,010 horsepower, from water abstracted from the glory of Niagara, as of June, 1911.

It further appears that while of this total there is produced on the Canadian side nearly 47 per cent, the use of Niagara-generated electric power in Canada is but 18.6 per cent of the total production.

That is, the three Canadian plants (two of them owned and operated by citizens of the United States) make nearly half of the total power taken from the glory of Niagara, but sell for use in Canada barely one-sixth of the total.

In fact, it is probable that but one of the so-called Canadian plants—and that the smaller one—could operate upon the load furnished within the Province of Ontario. Thus the much-vaunted increase in Canadian manufactures, said to have been brought about by the availability of electric power, proved before your committee on Tuesday last to be obtained at barely half the price charged consumers in Buffalo for the same power, has amounted to but 49,500 electrical horsepower.

It is interesting in this connection to call your attention to the prospectus of the hydroelectric power commission of the Province of Ontario, which in its first report, published April 4, 1906, says, on page 7:

"They are satisfied that a market for at least 50,000 horsepower could be obtained within a reasonable radius of Niagara Falls as soon as transmission lines can be constructed, and this could be increased to at least 100,000 horsepower within five years thereafter."

The actual development, concerning which the Canadian company, most desirous of sending increased power into the United States, has given you alarming reports, has not proved equal by any means to the optimistic view had of it in 1906.

It is obvious that it is the practically unrestricted and completely doubled prices charged consumers in the United States that have made the American producers of power in Canada so anxious to have your committee aid in extending, at 100 per cent advance, the beneficent opportunity to further deplete the beauty and impressiveness of Niagara Falls, from which effort they are now restrained by the provisions of the Burton bill.

2. It is in point to call your attention to the fact that at the average prevailing efficiency—namely, 12 electrical horsepower per cubic foot of water taken from Niagara Falls—the combined treaty diversion would produce 672,000 horsepower. This is more than double the production as reported in House Document 246, which document, on page 13, again reiterates the conclusions of all the engineers who have impartially studied this problem, to the effect that—

"The artificial diversions of the power companies have materially added to the injury or interference with the scenic grandeur of Niagara Falls. Additional diversions now contemplated will increase this damage."

The increase to the treaty permissions, which are in no sense obligatory, would mean the development of two and one-quarter times as much power at Niagara Falls as was being developed there in June, 1911, and it is not improper to assume that interference with the scenic integrity of Niagara Falls, which it was the plain and only purpose of article 5 of the Canadian treaty to preserve, would be in that proportion. Again we quote from page 12 of House Document 246:

"On the depth and volume of flow over the cataracts, and on the continuity of the crest lines * * * depend largely the character of spectacle that it is desired to preserve."

3. On page 16 of House Document 246 may be found significant data on the prevailing efficiency of the use of the water by all the power plants operating at Niagara Falls. Taken into account with the admittedly deficient operating heads now in use, the efficiency is given as but 63 per cent, or not two-thirds of the available power which might be obtained.

But on the basis of using the full 220-foot head which is said to be practicable, the total efficiency of all the plants is but 48 per cent, or less than half that suggested as possible.

As we had the honor to insist on Tuesday before your committee, the water of Niagara is precious water; it belongs to all the world and is of immeasurable value, both from the scenic, the patriotic, the financial, and the conservational points of view, to the people of the United States and Canada. Every foot abstracted from the productive and God-given glory of the Falls ought to be made to produce the utmost possible amount of power, and not the easiest possible amount.

So long as the companies producing power at Niagara Falls are found by impartial Government engineers to be operating under an efficiency of only 48 per cent, it is respectfully, but insistently, urged that they have absolutely no right to ask for further diversions, depletions, and injuries to this, our principal American scenic asset.

4. The specious character of the plea made for the free and unrestrained admission from Canada of power produced there, we have outlined to you. With the known fact that the three large companies operating in the United States and in Ontario draw from the upper pool, equally depleting the whole cataract, and that the two remaining companies draw directly and entirely from the much endangered Horseshoe Fall, which is as much American as Canadian, we are confident that no member of this committee will be found to assume that it is a matter of indifference as to what Canada may do—when the doing in Canada is by American citizens, and so overwhelmingly for possible American consumption.

The guilt of the Federal Government is as great in respect to the proceeding destruction of the glory of Niagara Falls for every horsepower admitted from Canada as for every horsepower developed in the United States.

It is further obvious that if proper restraint is had upon the importation of electrical power from Canada, it will be many years before the damage will become more serious. With loss of 50,000 horsepower in use now of the 432,000 horsepower it is expected to produce under the treaty diversion on the Canadian side, there will be time for sentiment to form in Canada, which will inevitably be formed and will prove as effective in demanding the scenic preservation of the Falls as it has so far proved in the United States.

Gentlemen, if you so act as to hold down the spoliators of Niagara to the amounts which have been given them to protect their investments, with a fair profit to all enterprises going at the time the will of the people was manifested in the United States, you will be doing justice, and full justice, to every honest interest represented, and respecting as well the overwhelming desire of the American people to have, see, enjoy, and hold in reserve, no further damaged, the scenic glory of Niagara Falls.

Respectfully submitted.

AMERICAN CIVIC ASSOCIATION,
By J. HORACE MCFARLAND, *President*.
RICHARD B. WATROUS, *Secretary*.

Mr. WATROUS. Following Tuesday morning, when we adjourned, I might say, Mr. Chairman, that this statement is a paper presented

upon the reading by Mr. McFarland of the latest report returned to the House—Document No. 246, which includes the figures of diversion up to the expiration of the present bill.

I would like to ask, Mr. Chairman, if you have any knowledge when the committee is going to have the benefit—when this is going to be delivered to you?

The CHAIRMAN. We expect to close the hearings to-day. Just so soon as the reporters can have the minutes transcribed they will be corrected by the various speakers and sent to the Public Printer.

Mr. WATROUS. You expect, of course, to use these documents?

The CHAIRMAN. Yes.

Mr. Cohn desires to be heard further.

Mr. COHN. The statement was made here that the companies at the present time are utilizing but 13,800 cubic feet of water. That statement was based upon a report of some officials of the War Department made in June, made as on June 11, in which it was stated that the Niagara Falls Power Co. was using 7,870 cubic feet of water per second, whereas it has a permit for 8,600 cubic feet; that the hydraulic company was using 3,350 feet per second, whereas they were allowed 6,500 feet, and the other company was using 400 feet per second, whereas it has a permit for 500 feet per second.

The suggestion was made, I think by Representative Cooper, that that might have been with the same purpose. That the full amount was not used as that other company could not under the existing law get any power beyond 16,600 cubic feet, although the law allowed the Secretary of War under certain conditions to grant permits in excess of those, either under the Burton bill. I wish to say there is no such purpose on the part of anyone that the use of the water is fluctuating, and that permits in excess of 16,600 cubic feet, the extent of the bill, they must, under the terms of that act, be granted to the existing companies. I just state that to answer any argument of that character.

I wish to say, in the second place, that our company, the hydraulic company, has at no time professed to waive its common-law riparian right, or the rights under its grant from the State of New York, but it accepts the permit from the Secretary of War because the whole subject of permits under the Burton bill was assumed to be a temporary affair.

The third statement I wish to make is in respect to one matter this morning, with reference to the water of the Niagara River, that was used for domestic purposes at the city of Niagara Falls.

The city of Niagara Falls is now installing and will have completed by June a suitable filtration plant so that the question of the water of the Niagara River used for domestic purposes does not enter into this affair in any way. I would like to have the chairman call upon the representatives of the War Department present to give the actual user in cubic feet per second of water for power purposes by the companies, according to its last report.

The CHAIRMAN. Mr. Brown, is there anything further you desire to say?

Mr. BROWN. Nothing orally, Mr. Chairman, except possibly this, that the position of the Niagara company is the same in regard to this last matter stated by Mr. Cohn for the hydraulic company. We took the permits as a temporary matter, never having waived our right, and as said here the other day we have called your attention

to our legal rights, not for the purpose of telling you what we are going to do, or what you have got to do, but just to emphasize the equities that should be considered in our favor.

Under the chairman's permission given the other day, I shall ask at the close of these hearings to file a brief summary, including possibly answers to propositions that have been made as they occurred to me.

Mr. GARNER. Supposing that Congress should decide not to permit any water to be taken out of the Niagara River on the American side on the ground that it injures navigation, and upon an investigation of the facts the courts should determine that it did not injure navigation, although Congress on that ground refused to permit water to be taken from it. What would be the result of a contest in the courts? Or, in other words, if I may put the question in this way: If Congress should find that it would injure navigation to permit 20,000 cubic feet per second to be taken, and by legislation should prohibit any portion of it to be taken, and you should go into the courts and contend that the findings of Congress were erroneous and establish that fact to the satisfaction of the court, that it did not interfere with navigation, would you still be entitled to take 20,000 cubic feet per second?

Mr. DIFENDERFER. Under the treaty.

Mr. BROWN. In the first place, let me say if I could predict always what the findings of the court would be, the function of a lawyer would be done away with.

It is the uncertainty in the solving of these problems in these matters before the courts, that we help to bring about a solution. I could not predict, sir, what a court would say, and I can only say what in my opinion they ought to say and what I would advise a client they ought to say under the law as I see it to be.

In that connection I would say to my client that the United States Supreme Court has already held in the drainage case in Two hundred United States that legislation by Congress where it attempts to limit private rights, where it tends to usurp private rights, the function of Congress in legislating or limiting upon personal or private rights, is stated by the United States Court that the exercise of such powers must have a "substantial relation to the public objects which the Government may legally accomplish," and further on the court says that the exercise, or attempted exercise, of any power by the United States Government—or any Government in these matters—must not be "arbitrary or unreasonable, or beyond the necessities of the case."

Those are from the United States Supreme Court in Two hundredth United States. On the same principle I should also quote to my client as laid down by the State of New York in a Niagara decision, where they say "not even a State has the liberty to interfere with the riparian rights of the relator arbitrarily, but such interference, if attempted, must be in the interest of some substantial right of the State affected by the exercise of the rights of the riparian to the use of the water of the river." (70 App. Div., 543.)

Such principles as that I should present to my clients and advise them that they had rights which would be protected in the courts.

Mr. DIFENDERFER. At that point—supposing there was a tributary branch, we will say, a river supplying a navigable stream, would a company have a right to dam up and divert that water, or

could the United States Government prohibit them from doing that thing?

Mr. BROWN. To get the question clear, Mr. Difenderfer, you mean by diversion to divert it away and have it returned to the stream?

Mr. DIFENDERFER. Never returned to the stream. The Government would have a right, would it not, to interfere in a case of that kind?

Mr. BROWN. Not only the Government, but every riparian owner below, because under the law when a man diverts water from a stream—and the same principle applies whether it is navigable or unnavigable—makes any substantial diversion—he must return it to the river. If by not so returning it the lower riparian owner suffers, or if the public suffers, they each and both have a remedy.

Mr. DIFENDERFER. I believe there is a Rio Grande decision of the United States.

Mr. CLINE. There is a Colorado decision, too, on that point.

Mr. BROWN. Yes, but you must remember that the Colorado decision and in some respects the Rio Grande decision are decisions which are not based upon riparian rights. The decision there is based upon what we call the law of "prior appropriation," that if any man goes in upon a stream and diverts the water, and carries it away for irrigation for instance, he does not have to return it, and he gains a prior right over every subsequent user, whether that subsequent user be a riparian or any other person. That law exists in Colorado.

It is for the same reason that the decision read by Mr. Watrous, the Colorado decision, is all right in its place, but it does not apply here. That Colorado decision read the other day is where a man upon a stream had a waterfall which was attractive, and he had used it in beautifying and developing his place, his summer resort. Afterwards, somebody above tried to divert some of the stream. The scenic-beauty man said that he had appropriated this fall as a part of the beauty of his property and he claimed it by prior appropriation. A subsequent man can not get rights against him, and the courts sustained him.

Mr. CLINE. I don't want to make this tedious. Do you claim that your company is now seeking to exercise all the rights conferred upon them as riparian owners by the common law of the State of New York, or haven't they submitted some of those rights to the jurisdiction of the Secretary of War, or the jurisdiction of the commission of the State of New York?

Mr. BROWN. In answer to your question, sir, speaking for the Niagara company, we have riparian rights, vested property rights, beyond the extent that they have been exercised under any permits or as measured by any permits from the Government. Temporarily, and having regard for scenic beauty, they have submitted to provisions which have limited them to a certain use which is less than their legal rights.

Their taking the permits from the Government did not in any way constitute a submission of their rights to what is claimed—the right of the Government to dictate under the present law. They simply submitted as a temporary matter. For instance, our company had a capacity already developed, which required, for an economical operation, 10,000 cubic feet a second. The present law

limited that to 8,600. They submitted to that only as a temporary submission, until the thing should be adjusted, and we want to claim our right to have the use of 10,000 cubic feet. We don't expect you to fix that in detail, but expect that to whatever body you leave that to we may show our equities that that body may have the power at least to consider them.

In the same way, the hydraulic company needs 3,000 more in order to develop full capacity by operating at what will be a normal point of economy, and I say for them that they ought to have their 3,000.

STATEMENT OF MR. PHILIP B. BARTON—Resumed.

Mr. HARRISON. When was the Cataract Co. organized?

Mr. BARTON. About 14 years ago.

Mr. HARRISON. About 1898? What was the organized capital at that time?

Mr. BARTON. It was in 1895 or 1896 it began business, I think.

Mr. HARRISON. What was the capitalization?

Mr. BARTON. The present capitalization is \$2,000,000 stock and something under a million dollars and a half in bonds.

Mr. HARRISON. What was the original capitalization of that company?

Mr. BARTON. Authorized, you mean?

Mr. HARRISON. No, sir; paid in.

Mr. BARTON. I can't give you that.

Mr. HARRISON. I understood you to say this morning that a majority of the stock is owned by the Niagara Falls Co.

Mr. BARTON. That is true.

Mr. HARRISON. How much did that cost?

Mr. BARTON. Niagara Falls Power Co.?

Mr. HARRISON. Yes.

Mr. BARTON. That stock was given to the Niagara Falls Power Co. as part of a consideration for the power contract and for the franchise in the city of Buffalo, the Niagara Falls Power Co. had obtained.

Mr. HARRISON. In other words, the Niagara Falls Power Co. paid nothing in cash or nothing in property except that it gave up the right to enter the city of Buffalo to distribute their power there.

Mr. BARTON. That partly is true. Their franchise in Buffalo also is a concession in price.

Mr. DIFENDERFER. It was a present, in other words.

Mr. BARTON. No; it wasn't a present. There is a very substantial consideration in the power contract, the very low price at which power was sold to the company was part consideration.

Mr. DIFENDERFER. That was the consideration at that time, a concession, was it?

Mr. BARTON. It was.

Mr. DIFENDERFER. At about how much would you approximate the value of that concession?

Mr. BARTON. Well, under present conditions the Cataract Co. is paying 6 per cent dividends. The Niagara Falls Power Co. is getting about \$60,000 for its share of those dividends, \$60,000 a year, and at the present rate power is delivered, about 65,000 horsepower, it would be about \$1 a horsepower.

Mr. DIFENDERFER. Per year?

Mr. BARTON. Per year.

Mr. HARRISON. Is this company, the Niagara Falls Co., is that the company that Morgan is interested in?

Mr. BARTON. I am not sure that Mr. Morgan personally is, but the J. P. Morgan Co. is a large shareholder of the company.

The CHAIRMAN. Congressman Smith desires to be heard.

STATEMENT OF CHARLES B. SMITH.

Mr. SMITH. I desire to ask, Mr. Chairman, if Mr. Kenefick wishes to say anything.

I will read, with the committee's consent, two letters which I received from Buffalo, which tend to show the attitude of the people of that city.

The first one is from Mr. Frank C. Ferguson, a leading lawyer of the city, who wanted to come before the committee but was unable to do so because he had to appear before the Interstate Commerce Commission. This is what he says:

FERGUSON & MAGAVERN,
Buffalo, N. Y., January 20, 1912.

HON. CHARLES BENNETT SMITH,
Washington, D. C.

DEAR SIR: I am glad that you are taking such a great interest in the two Niagara Falls power questions, the question of the production of electrical power on this side of the line, and the question of the importation of Canadian power.

I hope that these things may be made plain to the committee, notwithstanding the fact that the great public does not find it so easy to go, or send its agents, to Washington, and get their views directly before the authorities, as to the power companies.

1. That while electrical power is produced by the use of the Niagara Falls current at a low cost to the producers, the public, on this side of the international boundary line at least, have never received any benefit from that decreased cost of production. On the contrary, it has always had to pay exceedingly high rates. Indeed, the city of Buffalo particularly is worse off to-day than as though no electrical power at the Falls had ever been developed. In anticipation of cheap Niagara Falls power, it advertised itself far and wide as the electrical city. Owing to the fact that it has always had to pay excessive rates for power, it could not and did not "make good" in its claim, and the reaction that followed when the outside world found out the facts has harmed it greatly. You know this as well as I do, but people living 500 miles from Buffalo do not generally know it. I wish that the committee could have one of its hearings at Buffalo, in order that it might find out what the local sentiment in this matter really is.

2. Any sentiment in western New York that any of the power companies should be given the right to use any more water than they now have the legal right to use, is strictly confined to the power companies themselves, their agents and servants. All of the rest of the public believe either that no additional water should be used for the development of electrical power, or that the additional 4,400 cubic feet of water which the treaty allows to be taken, should be turned over to the State of New York. Leaving out of account the matter of the injury to the natural beauty of the Falls by the diversion of water, it would, of course, be to the manifest advantage of the public to have additional electrical power developed at the Falls, if the public could thereby get the power at a reasonably low rate, as it probably could if the present electrical power monopoly should be broken and the additional current or power development be turned over to the State of New York. The production and distribution of electrical power at the Falls at the present time is an absolute monopoly, and it would not interfere with that monopoly in the slightest

degree to give to the present companies the right to take increased amount of current.

As long as the development of Niagara power remains a monopoly in private hands I have no confidence in our ability to get electrical power at a fair rate through the public service commission.

3. Every restriction on the importation of Canadian power should be at once removed. Electrical power is a "raw material" and should be "free." Electrical power has of itself no value. It is simply an instrument to produce value.

4. Subject to the paramount right of Congress over navigation and commerce, its treaty-making rights and its control over imports, the National Government has really no legal right to interfere with the State of New York in the matter of the development and sale of Niagara power.

I hope that the hearings before the committee will not be concluded until the authorities of the State of New York shall be heard upon these two subjects—of the production and importation of Niagara power and until the committee shall be well informed as to the real local sentiment in western New York.

Yours, very truly,

FRANK C. FERGUSON.

That is from Mr. Ferguson. Another letter received this morning is from Charles M. Heald, president of the Mutual Transit Co., one of the leading transportation companies on the Great Lakes:

BUFFALO, N. Y., January 23, 1912.

HON. CHARLES BENNETT SMITH,
House of Representatives, Washington, D. C.

MY DEAR SIR: I have just read a letter recently sent you by Mr. Frank C. Ferguson, of this city, bearing on the question of Niagara Falls power.

I am heartily in accord with the position taken by Mr. Ferguson, and I feel absolutely safe in saying that in all probability 90 per cent of the citizens of Buffalo would concur if they had the opportunity to pass an opinion upon this question.

While I am not aware, of course, as to what it costs to produce this electrical power, I am sure it is produced at a low cost, but, unfortunately, the users of it on this side of the international boundary line have never yet been able to secure the power at anything like the proper figure.

To properly conserve this power for the interest of the people who have the right to it—and that is the people at large—I feel the concession of any rights should be invested in the State of New York and not in private companies, as our experience with the latter up to this time has not been at all satisfactory.

Electrical power is, as Mr. Ferguson expressed it, a raw material; it is of no value whatever until it is put into use or, in other words, "manufactured," and therefore, as raw material, it should be admitted to this country free.

The State of New York, subject, of course, to Congressional and National Government control, should have vested in it the right to control; and through such control, if properly conducted, of course manufacturing industries generally would get the benefit of this cheap power, which they certainly are entitled to.

I trust this matter will not be disposed of before all parties of any importance may have an opportunity to be heard before the committee, especially the New York State authorities.

This question of the use and control of the Niagara Falls power is of vital interest to this section of the State, and I trust it will receive your earnest attention and support.

Yours, very truly,

CHARLES M. HEALD, *President*.

I have also here a letter from Senator Burd, of Albany, which I will have placed in the minutes.

COMMITTEE ON FOREIGN AFFAIRS,
House of Representatives, Washington, D. C.

GENTLEMEN: A matter of large importance to our whole State, and especially to the city of Buffalo and its environs, is now pending before your committee, I am informed. I refer to the further diversion of water above Niagara Falls for power purposes.

If it had not been for the efforts of Hon. Charles B. Smith, now Congressman from the district in which I reside, I am certain our State, and especially our locality, would have lost the direct benefit coming from this additional water.

He first, as editor of the Buffalo Courier, directed attention to the subject, and has since continued his efforts in this behalf.

Our people will insist and our State will insist on these points:

1. The paramount and exclusive rights of the State in all pecuniary benefits coming from the water diversion; it is legally their property, subject to commerce clause.

2. There must be no more grants in perpetuity or without adequate compensation, payable to the State, and only granted by the State's permission.

3. The residuum of water at Niagara Falls should at once be granted the State.

4. The State, and I believe Congress, should insist on restrictions in the grant as regards prices, and uses, and should aim to approximate a maximum of power.

5. I have introduced, and had passed in the legislature, different resolutions covering some or all the above; and I am certain our people will not condone any waste of their remaining patrimony along this line.

Respectfully,

GEO. B. BURD.

I have also a petition from the people of Niagara Falls, N. Y. I believe about 50 residents of that city signed a petition in favor of having the rights to control the water turned over to the State of New York:

Whereas the rates charged for electric lighting and for power at Niagara are unreasonably high, considering the world's greatest power development is within our gates; and

Whereas we have been unable to get relief from the public service commission of New York State:

Resolved, That we urge upon the Committee on Foreign Affairs the incorporation of a provision in the proposed law which shall give full authority to the Federal or to the State authority, or to both, to grant to the city of Niagara Falls such diversion of waters as the city may require for public uses, and that copies of the foregoing shall be forwarded to Representative James S. Simmons and to Representative Charles Bennett Smith.

B. L. Brown, president Third Street Business Men's Association; T. H. Wallis, vice president Third Street Business Men's Association; H. J. Storek, secretary Third Street Business Men's Association; B. J. O'Reilly, treasurer Third Street Business Men's Association; Otto W. Krueger, J. E. Paterson, Chas. C. Hannel, John K. Kammon, H. M. Gous, Welch Bros., Paterson Thompson Co., Lond's Piano Co., Abe Wallens, Daniel Rinkhoff, Harry Abelson, Christ Blessing, Niagara Importing Co., McGraw & Crowley, McKunnie Bros., Ely Oracles, Nate H. Jacobs, Chas. N. Poebel, J. H. Ellenhan, S. M. Ward, Carnum Buttius, John P. Dolan, Joseph G. Rowan, C. M. Thomas, Geo. A. Adler, John E. Sengen, members Third Street Business Men's Association.

I have also some official records of the public service commission which I would like to place in the record. They indicate a close affiliation among the power and transmission companies operating at Niagara Falls.

On the general question of this legislation I believe the first proposition that would be considered by the committee is that of the preservation of the scenic beauty of Niagara Falls.

Gen. Bixby has been before the committee. He has given the results of investigations made by the War Department on water diversions along Niagara River. I believe the committee may safely rely on the recommendations of the War Department in that particular. You have a representative here for Mr. McFarland and have his views, which are entitled to consideration and respect. To my mind, however, the investigation of the War Department has been thorough, and I believe the conclusion reached by its engineers ought to be final.

We next come to the efficiency of production at Niagara Falls. A statement was made by Mr. Sawyer, one of the first speakers, that we have practically a power famine in and around Buffalo. That is quite true, but I would like to call the attention of the committee to this fact, that the Niagara Falls Power Co., according to the best information obtainable, is producing about 10 horsepower for every cubic foot of water diverted, and the hydraulic company, which takes its water from nearly the same level in the river, produces 20 horsepower. I believe that new legislation decided upon by this committee should contain an emphatic efficiency clause so that the Niagara Falls Power Co. would be compelled to produce more power per cubic foot of water or relinquish its rights to a company which will produce power at a higher standard of efficiency.

Mr. GARNER. Where would you have placed that power? Would you have Congress provide in the bill the degree of efficiency that should be maintained by the power company, or would you leave that to the War Department or to some other department of the Government?

Mr. SMITH. I have prepared a provision on that point, and I would like to read it to you here.

Mr. Smith read as follows:

Sec. 2. That the Secretary of War is hereby authorized to grant to the State of New York revocable permits for the diversion of water in the United States, from said Niagara River, above the Falls, to an aggregate amount not exceeding a daily diversion at the rate of 20,000 cubic feet of water per second: *Provided*, That whenever the Secretary of War shall determine that the diversions of water herein authorized, in connection with the amount of water diverted on the Canadian side of the river, above the Falls, interfere with the navigable capacity of said river, or its proper volume as a boundary stream, or the scenic grandeur of Niagara Falls, or that the water diverted for the development of electrical power are not being utilized to their full or proper standard of efficiency, he may revoke said permits, after giving notice of not less than one year to the State of New York, the President, and the Congress of the United States of his intention to make such revocation.

Mr. HARRISON. That only applies to power diverted on this side.

Mr. SMITH. Yes.

Mr. HARRISON. Does that apply to power brought over from Canada?

Mr. SMITH. I have that question covered in another section, which reads as follows:

Sec. 3. That the Secretary of War is hereby authorized to grant permits for the transmission of electrical power from the Dominion of Canada into the United States; and the said Secretary may specify the persons, companies, or corporations by whom the same shall be transmitted, and the persons, companies, or corporations to whom the same shall be delivered: *Provided*, That no permit for such transmission or delivery of power shall be given by the Secretary of War without the full approval of the State or States into which said power is to be transmitted or delivered and that the persons, companies, or corporations receiving such permits for transmission or delivery shall be governed and regulated as to rates and otherwise as the State or States may determine.

Mr. GARNER. Let me make a suggestion there—the word “State” is rather broad. Hadn’t you better make that the Government, the governor of the State? The word State might contemplate the legislature.

Mr. SMITH. I took that provision from a law that is on the statute books. I would be perfectly willing to make any change to cover the point raised.

Mr. GARNER. If the Secretary of War would want to ascertain under what provision, the last provision of your suggested amendment, would he go to the governor or the legislature? You say the State. There ought to be some provision, it seems to me, designating, for instance, who the Secretary of War could deal with under that provision.

Mr. SMITH. I think that is true.

The CHAIRMAN. It should be the public service commission of New York.

Mr. GARNER. Or some definite power that the Secretary of War could deal with. When you say the State of New York, the Secretary of War would have to construe that as to what you meant by the State of New York, whether you meant the legislative body or the governor, or whether you meant the public service commission, or the governor alone. It seems to be it would be advisable to designate what official the Secretary of War would have to deal with.

Mr. SMITH. That would be agreeable to me. So far as those provisions are concerned—that is, giving the right to the Secretary of War to revoke permits—I believe they are proper and that they are legal, notwithstanding the contrary statement made here by the Attorney General. I was much interested in having Mr. Carmody here, because his appearance is the first time in the 20 years of discussion over Niagara power that the State of New York has shown actual official interest in the development and distribution of electrical energy at Niagara Falls. The State has been absolutely indifferent and neglectful, inefficient and incompetent in handling this whole subject; and while I have no doubt, on account of the efforts that have gone forward for the last two years, that the conservation commission at Albany may show more interest in the subject, yet I favor having the Federal Government keep complete control over the diversion of water, so that if we can not get proper action or adequate protection from the State of New York, we will have some right of appeal and a further tribunal to which we could go.

I don't know whether the attorneys for the power company will object to the provisions which I have suggested on the ground of constitutionality, but I believe that these provisions are perfectly legal and would be sustained by the courts.

Now, there are various phases of this subject which might be discussed by the committee as a whole, and I suggest an executive hearing. I do not wish to go into any part of the discussion which the committee doesn't want to hear. If any member desires information which I possess or wishes my views on any phase of the situation I shall be glad to give it now.

The CHAIRMAN. Do you want to incorporate your letters and memorandum in your remarks?

Mr. SMITH. Yes; and certain official statements of the public service commission.

The CHAIRMAN. You may have that privilege.

Mr. GARNER. In the first place, do you believe that you can divert 20,000 cubic feet on the American side without materially injuring the scenic beauty of the Falls?

Mr. SMITH. I do; and I wish to make this suggestion: That the Congress has no authority to prevent the diversion of 36,000 cubic feet on the Canadian side of the river; that this disputed 4,400 cubic feet allowed under the treaty on the American side is taken from the same pool as the 36,000 cubic feet authorized on the other side of the river, and therefore the only control this committee has in limiting and restricting the diversion relates to 4,400 cubic feet.

Mr. GARNER. You believe, then, that the authority to import power from Canada can be authorized by the Congress and that indirectly in order to promote the power on the Canadian side would not materially affect the scenic beauty?

Mr. SMITH. I believe that.

Mr. GARNER. In that connection, how long would you anticipate, from your knowledge of the conditions along the Canadian border, that it would be before the Canadian people would be using their entire power?

Mr. SMITH. I believe it would be not more than 10 years at the most, and probably nearer five years.

Mr. GARNER. And if we, by preventing the importation of it in that indirect way, try to preserve the scenic beauty of the Falls we would not accomplish that for more than five or ten years?

Mr. SMITH. That is my judgment, based on observation.

Mr. GARNER. If this power is imported, you would turn over the regulation and control of it as to prices to the State of New York?

Mr. SMITH. Yes.

Mr. GARNER. I think you have a provision that the Secretary of War might cancel these permits if, upon investigation, the powers in New York were not being exercised properly?

Mr. SMITH. That is my idea.

Mr. GARNER. You would have the same provision apply to the 20,000 cubic feet to be taken from the American side?

Mr. SMITH. Yes.

Mr. GARNER. That is to say, you would issue permits by the War Department to the State of New York, to be reissued by the State of New York to such persons and corporations or companies as would want this power, and the price to be regulated by the State of New York?

Mr. SMITH. By the State of New York.

Mr. DIFENDERFER. You would not be in favor, then, Mr. Smith, of turning over this 4,400 cubic feet to these companies that are already in control?

Mr. SMITH. That is a question, of course, that would be taken up with or by the State of New York. These companies are claiming a right to the remaining 4,400 cubic feet. That is a perfectly natural claim. But the companies believe they will get the 4,400 cubic feet because of the fact that it is not a sufficient amount, according to their view, to warrant the building of another plant. They believe that eventually it would go to them by default, because no one else would find that small amount financially profitable, unless a project similar to that which has been put before you by Mr. Bowen were consummated.

Mr. GARNER. Which would add an additional 1,600 cubic feet?

Mr. SMITH. Yes.

Mr. GARNER. In your judgment, would that materially affect the addition—1,600 feet—would that materially affect the scenic beauty, in your judgment?

Mr. SMITH. I don't believe it would. I think it would be infinitesimal, that amount of water, on Niagara Falls.

Mr. GARNER. If such a company as that were to build a plant upon the plans that have been submitted here, do you believe that the public would be the gainer by it?

Mr. SMITH. I believe the public would be gainer.

Mr. GARNER. In cheaper power?

Mr. SMITH. I believe so.

Mr. CLINE. That is, if a new independent company—

Mr. SMITH. There is practically a monopoly at Niagara Falls at the present time, and while there may be no practical or valid objection to that, providing it is adequately regulated, it has not been regulated by the public service commission. The public service commission will not initiate an investigation, and that, so far as State regulation is concerned, is the whole point in this controversy. If 100 citizens or if a city makes a complaint, the commission will take up the complaint and examine the proofs, but the commission will not go beyond that point. The result is, in so far as the city of Buffalo is concerned, the public service commission has never regulated any rate, and the rates at the present time are extortionate. I believe this is the judgment of almost everyone in the city of Buffalo. No relief has been obtained, because no verified complaint has ever been made to the public service commission.

Mr. HARRISON. Is the public service commission elected in New York?

Mr. SMITH. Appointed by the governor.

Mr. HARRISON. For how long?

Mr. SMITH. They are appointed, I believe, for a period of five years.

Mr. DEFENDERFER. In your judgment, would there be any beneficial results if this committee or a subcommittee were to visit the city of Buffalo to ascertain some of these facts?

Mr. SMITH. I do not know what it could accomplish now, in view of the hearings that have been held. If the committee had gone up there and spent two days, as we desired the members to do, perhaps they would have avoided these long hearings and have gotten more information.

The CHAIRMAN. We have given great latitude in these hearings as a matter of courtesy to get all views.

Mr. HARRISON. We certainly got a lot of information on these subjects.

Mr. GARNER. It necessarily costs something for the War Department to supervise this power importation from Canada and taking water on the American side. Is there objection for the State of New York or the parties using this power to compensate the Government for supervising their business?

Mr. SMITH. I do not know. That would be a question for the power companies. I believe that so far as the supervision of the War Department is concerned, that it does not take much time. The time heretofore taken has been due to the investigations made there

as to the amount of water that was actually being diverted. Once it was in their control, they would not have to exercise continuous supervision.

Mr. GARNER. But if Congress should adopt your suggestion and reserve in the War Department the right to investigate the question of whether or not the public-service commission was giving you a reasonable rate, they would have considerable to do, I imagine, to ascertain those facts and see whether or not you were giving a reasonable rate. It might take a good deal of machinery. It seems now that it has taken \$35,000 worth of machinery to ascertain the facts in the city of Buffalo alone.

Mr. DIFENDERFER. Then they have not ascertained it?

Mr. GARNER. If the United States Government can supervise the importation of the power and have something to say about the price of it, and also supervise the taking of the water on this side, and in connection with that look into the question of reasonable rates, it seems to me that the people to get the benefit of this supervision ought to contribute to the amount of that expense.

Mr. SMITH. I do not see how it would be possible, however, to provide a means of getting that compensation.

Mr. GARNER. Well, we would put a little tariff on the power that comes in and make possibly a condition—I have not investigated the law—but we might make some condition on taking the water from the American side.

Mr. SMITH. I am in favor of placing every restriction and price limitation that the Constitution will permit.

Mr. DIFENDERFER. You are not in favor of a tariff?

Mr. SMITH. I would not be.

Mr. HARRISON. Have you got a law in the State of New York; if you know, that prevents and prohibits one competing corporation from owning stock in another competing corporation?

Mr. SMITH. I do not believe there is such a law. I never heard of it.

Mr. DIFENDERFER. There is a Federal law to that effect, is there not?

The CHAIRMAN. Judge Fennewick, do you desire to say something to the committee?

STATEMENT OF DANIEL J. FENNEWICK, OF BUFFALO, N. Y.

Mr. FENNEWICK. I am the local attorney for the Cataract Power Co. of Buffalo. I understood from newspaper accounts that reached Buffalo that some statements were made by counsel as to the power situation in Buffalo.

Perhaps I ought to state for the purpose of clarification that long before the Niagara Falls Power Co. erected its plant at Niagara Falls there was a lighting company in Buffalo; that it had three or four or five steam plants where it generated electricity and supplied the city of Buffalo and the inhabitants of that city with electricity. So that that company was in existence long before the Niagara Falls Power Co.

Now, when the Niagara Falls Power Co. completed its plant, the question arose as to whether the power could be successfully transmitted to Buffalo. That problem was solved, and the Niagara Falls

Power Co. decided to transmit the power to Buffalo, but before erecting its transmission lines it declined to undertake the problem of distributing power in the city of Buffalo. Of course in all of these cities you have got to have a franchise from the common council, and you have got to submit to certain regulations. It is needless to say that in the distribution of power in a large city like Buffalo, with most of the streets paved, where you are required to put a certain amount of your wires underground, that there is a large financial problem involved.

The Niagara Falls Power Co., as I understand it, was unwilling to take upon itself the entire burden of distributing the power in Buffalo, and certain gentlemen in Buffalo got together—some five or six—got a tentative contract with the power company, and then they got in engineers to see whether it would be a successful financial proposition; and the report of their engineers was adverse, and they were anxious to give up their contract with the power company. At this stage some of the men who were interested in the Buffalo General Electric Co., who did not control it, but who were stockholders in it, decided that they would take that contract off the hands of these men if they were willing to give it up. Those men gave it up, and these other men entered into the contract with the Niagara Falls Power Co., and that was the inception of the Cataract Power & Conduit Co.

I want to call your attention to the fact that five or six men—strong men—in Buffalo, after making a thorough investigation of the situation, abandoned the project and got out of their contract, fearing that it would not be successful financially.

These other men took up the proposition and put through the Cataract Power & Conduit Co.

Mr. DIFENDERFER. So successfully, Judge, that they were enabled to give half of their stock back to the Niagara Power Co.

Mr. FENNEWICK. You already have had it stated by one of the gentlemen here—I think, Mr. Barton—what the consideration was.

Now, the Cataract Power & Conduit Co. sells power to the Buffalo General Electric Co. for all lighting purposes and for power in small blocks. I think the highest they sell for power is 75 horsepower, and the Buffalo General Electric Co. abandoned its steam plants.

Now, I want to get it out of your minds at once that the Buffalo General Electric Co. is controlled either by the Cataract Power & Conduit Co. or by the Niagara Falls Power Co. I want to get it out of your minds that the Buffalo Electric Co. is controlled by any 10 men or any 20 men.

Mr. HARRISON. It is controlled by the Niagara Power Co.

Mr. FENNEWICK. Absolutely not.

Mr. HARRISON. Is not that what Mr. Barton said?

Mr. FENNEWICK. Oh, no; he said the Cataract Power Co. is controlled by the Niagara Falls Power Co., but not the Buffalo General Electric Co.

Mr. SMITH. Is there not a pretty close alliance between the Cataract Power & Lighting Co.?

Mr. FENNEWICK. What do you mean?

Mr. SMITH. Are in the same offices?

Mr. FENNEWICK. No; they are in the same building.

Mr. SMITH. Isn't one of the officers of the Cataract Co. also an officer of lighting company?

Mr. FENNEWICK. Yes; that is true.

Mr. HARRISON. What officer is that, president?

Mr. FENNEWICK. No, manager.

Mr. DIFENDERFER. He is the manager?

Mr. FENNEWICK. Yes.

Mr. DIFENDERFER. For both?

Mr. FENNEWICK. Yes, sir. In that respect, but they do not compete. What I want to say to you is that there is no control, no stock control, either by the Niagara Falls Power Co. or the Cataract Co. of the Buffalo General Electric Co., and there is no group of stockholders of those companies who control the Buffalo General Electric Co.

Mr. DIFENDERFER. Then the J. P. Morgan interests are quite evident in the Cataract Co., are they not?

Mr. FENNEWICK. I understood that they are large stockholders in the Niagara Falls Co.

Mr. DIFENDERFER. In the Cataract Co.?

Mr. FENNEWICK. No; I understand not.

Mr. HARRISON. Can you give us the names of the directors of the Buffalo Electric Co.?

Mr. FENNEWICK. I can submit them to you.

Mr. HARRISON. You can give us some of the names, I suppose?

Mr. FENNEWICK. Yes, sir.

Mr. HARRISON. That you remember?

Mr. FENNEWICK. William C. Warren, Charles R. Huntley, Walter C. Cook, Mr. Barrick, Mr. Andrew Langdon.

I can not name them all.

Mr. HARRISON. You have not named any of the directors in the Niagara Falls Co. that are directors in the Electric Co.?

Mr. FENNEWICK. I do not believe there are any. Henry W. Burt is another, and Pomeroy is a director of the Niagara Falls Power Co.

Mr. HARRISON. What?

Mr. FENNEWICK. He is the only one director of the Buffalo General Electric Co.

Mr. DIFENDERFER. Are any of those men you named interested in the Cataract Co.?

Mr. FENNEWICK. I think Mr. Huntley is interested in the Cataract Co., but I think that is all.

Mr. HARRISON. The general manager is interested in both?

Mr. FENNEWICK. Yes, sir.

Mr. HARRISON. Who is that, Mr. Huntley?

Mr. FENNEWICK. That is Mr. Huntley.

Mr. GARNER. As I understand it, when the Niagara Falls Power Co. decided to build up to Buffalo, they went up to the city line?

Mr. FENNEWICK. Yes, sir.

Mr. GARNER. They were a local company doing business in Buffalo, and generating electricity by steam?

Mr. FENNEWICK. One company, the Buffalo General Electric Co.

Mr. GARNER. The Niagara Co., as it were, said: "Gentlemen, we are up here with some cheap power. We come up here to furnish these people with electricity. Now if you give us the controlling stock in your company we will sell power to the company and let you continue business; otherwise we will come in and compete with you."

Mr. FENNEWICK. That was not quite the situation.

Mr. GARNER. It appears that way to me. At least I simply give you my idea that the Niagara Falls Power Co. said, "We have got some cheaper power, and we will sell it to you on satisfactory terms; otherwise we propose to come in——"

Mr. FENNEWICK. They could not come in without getting a franchise from the city. They had to get a franchise that would permit them to come into Buffalo.

Mr. GARNER. I understand, but is it not to be presumed that the city of Buffalo would let a company come in with cheaper power?

Mr. FENNEWICK. Making that assumption; yes.

Mr. GARNER. I do not assume that the city of Buffalo would refuse their people cheaper power.

Mr. FENNEWICK. You are also assuming that the Niagara Falls Power Co. wanted to undertake the distribution of power in Buffalo, which they did not.

Mr. GARNER. I will assume, then, that they did not want to distribute their power in the city of Buffalo.

Mr. FENNEWICK. That is, they did not want to undertake the financial responsibility involved.

Mr. GARNER. But they did make such an arrangement after they got control of the stock of the company that did distribute, and therefore do distribute in the city of Buffalo.

Mr. FENNEWICK. They assumed the responsibility of getting up to the city line, but said to the other gentlemen: "The question of distribution is for you to determine yourselves whether under a franchise it would be a paying business."

Mr. GARNER. They succeeded in convincing the gentlemen who were then distributing electricity in the city of Buffalo to the extent of getting a contract granted with them and a controlling interest in their company.

Mr. FENNEWICK. Hardly granted. They gave them a very good contract, a very favorable contract.

Mr. GARNER. It appears to me like a great big fellow walking up to the city of Buffalo and saying, "Gentlemen, you are at my mercy."

Mr. FENNEWICK. I think when you begin to talk about three profits here, there are no three profits in the business. Let us assume that the Niagara Falls Power Co. are in the business of distributing power and light in the city of Buffalo; would not it have to have the same plant as the Cataract Co. has and the Buffalo General Electric Co. have now?

It would have to have practically the same investment, and certainly when you talk about three profits there are no three profits.

Mr. GARNER. I agree with that; if I had been a stockholder in the city of Buffalo at the time this power came through the gates, I would have made the best terms possible. I am not criticizing the Niagara Falls Power Co., but I am saying that the situation was such that the Niagara Falls Power Co. was able to make its own terms with the company that could not compete with them in the matter of cheap power.

Mr. FENNEWICK. I can not quarrel with your deductions, of course. I want to go a little bit further in reference to extortionate rates. I think it is safe to say that there is no large city in the United States that gets its electric lighting as cheap as the city of Buffalo, and I want Congressman Smith to name me some large city that does.

Mr. CURLEY. The Edison Co. deliver a power in Boston, have reduced their kilowatt from 18 cents per kilowatt to a recent reduction put in operation last week of 10 cents—a total reduction of 50 per cent. What reduction has been made in the last five years by the operating companies in Buffalo?

Mr. FENNEWICK. I think I can say to you that our highest maximum rate is 9 cents for lighting, and I believe that the statistics of our company will show that the average rate we get on all of our distribution of power, as well of day power as of night power, is somewhere between 2 and 3 cents a kilowatt-hour.

Mr. CURLEY. That maximum rate—has that been reduced at any time in the last five years?

Mr. FENNEWICK. I can not say, but that only applies to very small installations of light. I know it has been reduced, as far as the municipality is concerned, to 6 cents.

Mr. CURLEY. What did the municipality pay previous to that?

Mr. FENNEWICK. Nine cents on small installations. The municipality pays for the power it gets at the pumping station \$25 a horsepower.

Now, I want to say further to you gentlemen, a good deal has been said about the lack of power and the unwillingness of the public-service commission. We have got a public-service commission in the second district in the State of New York that I believe is as high class a commission as was ever appointed by Governor, now Justice, Hughes. The man at the head of it was appointed chairman by Mr. Hughes, and he is still chairman, and it is a high-class commission. Now, we have had that commission in this district since 1907. At any time if the cost of electrical power was such a great burden as it has been represented here, do not you think that 100 users of power, or 100 users of light, would have taken advantage of the law and made a complaint?

Now, they did not do it, although the subject has been advertised by such gentlemen as Mr. Ferguson, who is the writer of one of the letters read by Mr. Smith, who is a lawyer, and who has a lawsuit pending against the Cataract Power & Conduit Co., and that possibly may explain his interest in the situation. Here we have had this commission in force since 1907, and with all this talk of extortionate prices we have not had 100 consumers who would back up the movement.

Mr. CLINE. There must be some friction there or there would not have been \$85,000 set aside at Buffalo to investigate that?

Mr. FENNEWICK. You know, Congressman, that undoubtedly you will have complaints, and we are perfectly willing to have those complaints investigated. That is matter that is made a political issue.

Mr. CLINE. Under your theory, if 100 men had made a petition it would not have been necessary to set aside \$85,000 to get a hearing, would it, unless the people of Buffalo had judged it to be an aggravated case?

Mr. FENNEWICK. It was made a sort of a political issue by the candidates a couple of years ago, and now, to carry out that pledge made in the campaign, the complaint is at the present time made by the mayor. The complaint can either be presented by 100 consumers or by the mayor.

Mr. DIFENDERFER. Is it not a fact that over 100, in the neighborhood of 150, names have been placed on the petition protesting against these high prices?

Mr. FENNEWICK. Since the complaint was made by the municipality, within about fifteen days a gentleman who has been very active in the matter has succeeded in getting 100 names as to the lighting company and three names as to the power company.

It is not necessary to spend \$30,000 or \$35,000 for this investigation. Not at all. But the corporation counsel thinks it is and has got that money at his command to spend.

Counsel submits that no investigations of rate of any of the public utilities have been undertaken by the public service commission. That is not true. We have just finished an investigation of the Buffalo Gas Co. that has extended over a year.

Mr. DIFENDERFER. Has that any connection with the electric company?

Mr. FENNEWICK. None at all; but I simply want to indicate that it shows that the public service commission is active when it is called upon to exercise its power.

Mr. DIFENDERFER. In some particulars.

Mr. FENNEWICK. In all particulars.

If you can indicate to me one instance I will be glad to answer you if I can.

Mr. DIFENDERFER. It is quite evident that they have not interfered with the electrical power up to this time. I think Mr. Smith is quite right in his statement that he made here.

Mr. FENNEWICK. In what way? We have been before them often enough, not on the question of rates, because that question has not been complained of; no one has complained.

Mr. HARRISON. It was so important that it was made a political issue.

Mr. FENNEWICK. You know how easy such a political issue can be created.

Mr. HARRISON. May I ask you one question. Who won?

Mr. FENNEWICK. The Democrats.

Mr. DIFENDERFER. Then it is a popular issue.

Mr. SMITH. Gen. Greene says that they are selling the power at Lockport at \$18, and your company sells it in Buffalo at \$25.

Mr. DIFENDERFER. And there is only 6 miles difference in the distance to carry.

Mr. FENNEWICK. Now, if you gentlemen will consider the difference in size of Lockport and Buffalo and the difference in cost of distributing power in Buffalo.

Mr. SMITH. It is not distributed.

Mr. FENNEWICK. We have got to distribute. We have got to distribute it and they take it from the city line and bring down the voltage.

Do you know, gentlemen, it costs you from \$12,000 to \$15,000 a mile to put the wires underground? There is an ordinance—

Mr. CLINE. According to the testimony produced here the transmitting company gets in the neighborhood of \$7 to \$7.60 for transmitting the power, an amount equal to the cost of producing the power by the company they receive it from.

Mr. FENNEWICK. I understood Mr. Barton to say that the cost of producing was \$12, and not \$9.40, on the Canadian side.

It costs us from \$12,000 to \$15,000 a mile to put the wires underground in the city of Buffalo.

An ordinance was enacted back in 1906 or 1907 under which we are required in the first year to put down $3\frac{1}{2}$ miles, and the next year $3\frac{1}{2}$ miles, and the next year 3 miles; and every year thereafter, continuing on indefinitely, we are required to put down 2 miles. Now, we have not any such ordinance down through Lockport or in these small cities, and you gentlemen ought to have the proper conception of the cost of distribution of power when you get in a large city.

Mr. HARRISON. You represent the General Electric Co.

Mr. FENNEWICK. Yes, sir; I am the local attorney for both companies.

I do not know that I have anything more to say, gentlemen.

The CHAIRMAN. Maj. W. B. La Due, of the War Department.

Mr. FENNEWICK. Might I be permitted to file here copies of some of the certificates made by our users of power in Buffalo indicating their satisfaction with the general service?

The CHAIRMAN. Is it very voluminous? I think it would be advisable to give each member of the committee a copy.

STATEMENT OF MAJ. LA DUE.

Maj. LA DUE. I have nothing further to say, except that I have here a statement that I secured in response to an implied request of some of the representatives of the power companies, showing the diversions during the month of December, which I will append to my hearing. It shows that during the month of December the average total diversions by the two companies on this side was 13,785 feet. The maximum diversion, however, was up to the full limit of the permits. The diversion on the Canadian side, the average during December, was 12,560, the maximum being 16,400. The total diversion on both sides of the river was an average for the month of 26,345 and a maximum of 31,630. This information may be of value, and I will append it to my hearing. I will also append copies of the permits now in force. I have them here if the members would like to see them. I will also append two short statements prepared in the Office of the Chief of Engineers.

TABLE A.—Statement showing estimated diversions of all companies and importation of power into the United States from Canadian companies, vicinity of Niagara Falls, N. Y., for month of December, 1911.

[Furnished by the lake survey office, Detroit, Mich.]

	Diversions (cubic feet per second).		Importation of power (horsepower).	
	Average.	Maximum.	Average.	Maximum.
Niagara Falls Hydraulic Power & Manufacturing Co. (Hydraulic Power Co.)	8,135	8,630		
Niagara Falls Power Co.	7,650	8,600		
Ontario Power Co.	4,540	5,750		
Electrical Development Co.	2,650	5,000		
Canadian Niagara Power Co.	4,300	5,650		
International R. R. Co.	110			
Niagara, Lockport & Ontario Power Co.			25,700	37,000
Niagara Falls Power Co.			46,560	57,900
Total	26,345	31,630	85,200	114,900

¹The permit issued to the Niagara Falls Power Co. by the Secretary of War specified 52,500 electrical horsepower as the maximum load that can be brought into the United States, with the provision that "Peaks of load curves due to overlapping loads will not be considered as violations of the permit, provided the duration of any one such peak, measured on the 52,500 horsepower line, does not exceed one hour, and provided that the total duration of such peaks in 24 hours, measured in the same manner, does not exceed two hours."

NOTES.—The diversions of the Canadian companies are determined by applying the efficiencies of these plants, as stated in report of Sept. 30, 1911, to the output of power as determined by the inspections of the companies' records.

The Lockport Hydraulic Co. (Hydraulic Race Co.) has been shut down since the close of navigation owing to the reconstruction of canal in that vicinity.

The maximum diversion indicated above for the Niagara Falls Hydraulic Power & Manufacturing Co. is determined by applying the coefficient of relation between diversion and output, as determined by the discharge observations of December last, to the maximum output of the plant in December. This apparent violation of this company's permit occurred after discharge measurements were made and before reductions of the notes had been completed and limitations of output prescribed. Further investigation of this matter is being made preparatory to submitting a special report.

The amount of power imported is determined by direct inspection of graphic records of the transmission companies for December last.

STATEMENT AS TO THE EFFECT ON LAKE ERIE COMMERCE OF A PERMANENT LOWERING OF ONE INCH IN THE WATER SURFACE OF LAKE ERIE.

In view of the general interest in the very important question of the water levels of the Great Lakes, referred to incidentally at the public hearings relative to the Niagara Falls diversion, it is deemed pertinent to invite attention of the committee to the statement of Brig. Gen. William L. Marshall, Chief of Engineers, in transmitting to the Secretary of War Maj. Keller's report of November 30, 1908 (p. 8, S. Doc. No. 105, 62d Cong., 1st sess.), to the following effect:

"As each inch of draft for the modern lake freighter is the equivalent of from 80 to 100 tons of profitable cargo, the aggregate loss per season for the entire fleet using Lake Erie ports as terminals becomes a very large amount."

Maj. Keller in his report (p. 15, S. Doc. No. 105, 62d Cong., 1st sess.), said:

"The earning capacity of each freighter will be reduced to the extent of \$75 to \$100 per trip. During an average season the loss for each vessel would total \$2,500 to \$3,000."

The total commerce using Lake Erie ports may be stated as approximately 63,000,000 tons per annum, of which from 30,000,000 to 40,000,000 tons is now carried in vessels of 10,000 tons burden or over, which may be affected in any lowering of the water surface. Based upon the above figures, and assuming that cargo is available in quantity to permit the loading of each vessel on each trip, to the maximum draft permitted by the controlling depths of Lake Erie ports, the total potential loss to Lake Erie commerce due to a permanent lowering of 1 inch in the water surface may be taken at from \$250,000 to \$350,000 per annum; and this potential figure will increase with the antici-

pated natural increase in the number and size of the larger vessels, and in the total commerce of the lake. When the time comes that a matter of inches becomes a question of immediate importance to Lake Erie commerce, any lowering of that lake due to the Niagara diversions (which affect only Lake Erie and upper Niagara River) can be readily controlled by proper regulation works in Niagara River; although such slight effect and ready control will not be true of the Chicago diversion which is several times greater in amount, and must affect all four lower lakes and the St. Lawrence River, to a serious extent, unless controlled at several places by regulation works of great final cost in time and money.

STATEMENT AS TO THE USE OF WATER DIVERTED FROM THE ERIE CANAL BY THE
HYDRAULIC RACE CO. (SUCCESSORS OF THE LOCKPORT HYDRAULIC CO.)

Upon the request of the Hydraulic Race Co. of Lockport, N. Y., there is transmitted herewith for the information of the committee a copy of a letter from the Hydraulic Race Co., dated January 20, 1912, in regard to the use of the water diverted by that company from the Erie Canal for power purposes, under their permit to divert 500 cubic feet per second, granted by the Secretary of War under date of August 16, 1907. While this office has not been able, in the time available since receipt of this letter, to verify the figures stated therein, it is within the knowledge of this office that the general statements made are substantially correct; and in view of the prominence given at the public hearings to the principle that all water diverted at Niagara Falls should be used in such manner as to utilize the maximum possible head, it is deemed to be but fair and just to the Hydraulic Race Co. to place before the committee this statement, showing that while the Hydraulic Race Co. at its own plant uses but a 50-foot head (approximately the fall between the two levels of the Erie Canal at Lockport) the water diverted by them under their permit again passes out of the canal below the locks and is used over and over again by other power users between the Erie Canal and Lake Ontario, so that the total head finally utilized is a very large percentage of the total head available. This successive use of the water is distinctly provided for by the terms of the permit issued by the Secretary of War to the Hydraulic Race Co., as will be seen by reference to that document.

HYDRAULIC RACE Co.,
Lockport, N. Y., January 20, 1912.

Gen. W. H. Bixby,
Chief of Engineers, United States Army,
Washington, D. C.

DEAR SIR: We have before us copy of document No. 246 entitled "Preservation of Niagara Falls." On page 16 of this document is a table which indicates that the Lockport Hydraulic Co. is using but 11 per cent of the efficiency of a 220-foot fall, which will, we fear, lead many into a belief that the water granted (500 cubic feet) under the permit is a less economical development than any of the others, when, as a matter of fact, the water is used under a much greater head than any other water diverted from Niagara River.

In explanation, we add that reference to the permit of August 16, 1907, will show that it specifically provided for the use of the water by factories on Eighteenmile Creek, Medina, Albion, and other places after its passage through the development of the hydraulic company. It may fairly be said that no other Niagara River water performs a greater use in promoting the interests of the small consumer and individual manufacturer than that granted to the Lockport Hydraulic Co., nor is any more fully used.

We have taken the water practically at Lake Erie level (the level above the locks being usually between 569 and 570), and of the total fall of about 320 feet from this point to Lake Ontario over 230 feet is available, and, in the end, improved operating conditions and changes will result in utilization of even more.

We give the following heads as approximately correct for the various sites, beginning at Lockport and extending down Eighteenmile Creek to Olcott:

	Feet.
Hydraulic Race Co. (Lockport Hydraulic Co.).....	50
United Boxboard Co. (first plant).....	32.5
United Boxboard Co. (second plant).....	14
Lockport Paper Co.....	9
Niagara Paper Mills.....	9.5
Westerman & Co.....	21
United Indurated Fiber Co.....	29
Electric Smelting Co.....	35.5
Newfane Electric Co.....	7
Newfane Basket Co.....	14
Lockport Felt Co.....	9
Western New York Water Co.....	50

Total..... 290.5

All the plants of Eighteenmile Creek are practically entirely dependent for their operation on the permit of August, 1907, for their water power.

Our company's head will be lessened somewhat under new conditions of the barge canal, and one or two of the falls are not utilized at date, notably that of the western New York Water Co.

All these powers and their operation have been very much disturbed by the building of the new barge canal, but should be greatly improved in the future with more stable conditions, and it is possible that almost the entire fall to Lake Ontario will be utilized, and the total should certainly reach 300 feet, which compares more than favorably with the 220 feet available at Niagara Falls.

While we are not familiar with present conditions at the plants now operating on Eighteenmile Creek, it is fair to state that the head actually in use now is approximately 220 feet, so that the efficiency of this development on this basis should, we believe, be higher than any of the others, and the power even now amounts to several thousand horsepower.

We would appreciate it if the report may be amended in these particulars, lest some injury be done the various interests which have for so many years and before the passage of the Burton Act had the use of this water and upon which water their success now so largely depends.

We are sending this to you rather hastily, as we believe that there is to be a meeting on this whole question on Tuesday next, January 23, and you may wish to have this data before you and the others at that time.

We would appreciate your advices and trust the data may be of service.

Respectfully submitted.

HYDRAULIC RACE Co.,
By L. H. KUNHARDT,
Treasurer and Engineer.

PERMIT TO LOCKPORT HYDRAULIC CO. FOR DIVERSION OF WATER AT LOCKPORT, N. Y.

Whereas by section 2 of an act of Congress approved June 29, 1906, entitled "An act for the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes" (34 Stat. L., 626), it is provided that the Secretary of War is authorized to grant permits for the diversion of water in the United States from the Niagara River or its tributaries, for the creation of power, to individuals, companies, or corporations, which are now actually producing power from the waters of said river, or its tributaries in the State of New York, or from the Erie Canal; to an amount not exceeding in the maximum 8,600 cubic feet per second to any one individual, company, or corporation and not exceeding an aggregate amount of 15,600 cubic feet per second; and

Whereas waters are being diverted from the Erie Canal for the creation of power by the Lockport Hydraulic Co., a corporation organized under the laws of the State of New York, at Lockport, N. Y., by the abstraction of approximately 1,000 cubic feet of water per second from above the locks at said place,

which water is returned to the Erie Canal below the locks, of which total quantity 500 cubic feet is required for navigation purposes and the remaining 500 cubic feet is not required for navigation purposes; and

Whereas the said waters not required for navigation purposes, after being returned to the canal below the locks, are again diverted from the canal and are used for power purposes by various persons and corporations located upon Eighteenmile Creek, at and below Lockport, and at Middleport, at Medina, at Eagle Harbor, at Albion, at Holley, and at other places, and are not returned to the canal; many of the persons or corporations on Eighteenmile Creek using the same water in succession, one after the other; and

Whereas application has been made to the Secretary of War by the Lockport Hydraulic Co. for permission to divert 500 cubic feet per second from the Erie Canal at Lockport above the locks, and application has been made by various persons and corporations to divert various amounts from the Erie Canal below the locks; and

Whereas the diversion of water from the Erie Canal below the locks is not properly the diversion of water from the Niagara River or its tributaries, since said water diverted below the locks has already been diverted from above the locks and has been used for power purposes:

Now, therefore, this is to certify that the Secretary of War hereby grants permission to the Lockport Hydraulic Co., said applicant, to divert waters of the Niagara River and its tributaries from the Erie Canal, at Lockport, N. Y., above the locks, for power purposes, not exceeding 500 cubic feet per second, it being distinctly understood that the waters so diverted shall be returned to the canal below the locks, and that this permit shall inure to the benefit of all persons and corporations now using said water for power purposes, whether lessees of the applicant or having the right to be furnished by it with water, and including the persons and corporations now diverting water as aforesaid from the Erie Canal at Eighteenmile Creek, Middleport, Medina, Eagle Harbor, Albion, Holley, and other places on the lower level.

This permit is granted upon condition and with the understanding that it does not confer upon the applicant, or said other persons or corporations, any authority whatever to divert water from the Erie Canal without the consent of the State of New York, and that this permit is subject to any and all regulations which may be imposed upon the diversion of water from said canal by said State; and, further, that this permit is made subject to the jurisdiction of said State to alter, improve, or abolish the said canal and to prevent the diversion of any water whatever therefrom, and this permit shall not be taken to impose any obligation whatever upon the said State or the authorities thereof. It is intended to confer only so far as the Federal Government is concerned, and the Secretary of War is authorized, the right to take the water and to claim immunity from any prosecution or legal obligation under the first section of the act approved June 29, 1906, above mentioned.

Witness my hand this 16th day of August, 1907.

WM. H. TAFT, *Secretary of War.*

Extended September 2, 1911, to March 1, 1912.

PERMIT TO NIAGARA FALLS HYDRAULIC POWER & MANUFACTURING CO. FOR THE
DIVERSION OF WATER FROM THE NIAGARA RIVER FOR POWER PURPOSES.

Whereas under the provisions of an act of Congress approved June 29, 1906, entitled "An act for the control and regulation of the Niagara River for the preservation of Niagara Falls and other purposes." it is provided that the Secretary of War may grant permits for the diversion of water in the United States from said Niagara River or its tributaries for the creation of power, and that it shall not be lawful to divert water from said river for power purposes except in accordance with permits so issued by the Secretary of War; and

Whereas upon the applications, hearings, reports, and all the proceedings by applicants for permits under the provisions of the said act the Secretary of War, under date of January 18, 1907, filed a written opinion directing, among other things, that a permit be issued to the Niagara Falls Hydraulic Power & Manufacturing Co. for the diversion of 6,500 cubic feet per second;

Now, therefore, this is to certify that the Secretary of War hereby gives permission to the Niagara Falls Hydraulic Power & Manufacturing Co. to

divert 6,500 cubic feet of water per second from the Niagara River upon the following terms and conditions:

First. The amount above named, 6,500 cubic feet per second, represents the maximum quantity of water that can be diverted at any time under the terms of this permit.

Second. The grantee shall make, under the supervision of an authorized inspector of the United States, measurements in its intake canals of such a character and at such times as may be deemed necessary to show the amount of water diverted.

Third. The grantee shall keep such records as will show at any time the combined continuous output of its power stations and of the power stations of its customers to whom water power or mechanical horsepower is furnished.

Fourth. The power stations of the grantee and of its customers, to whom water power or mechanical horsepower is furnished, together with their operating records, shall be subject to inspection at all times by authorized inspectors of the United States.

Fifth. This permit is issued without any determination of priority of right to divert water from the Niagara River between the parties to whom permits for diversion may be issued.

Sixth. The grantee shall carry out in good faith the obligations which it assumed in its letters to the War Department, or to the representative of that Department, concerning the improvement of the scenic conditions on the American side of the gorge below the Upper Arch Bridge.

Seventh. The Secretary of War reserves the right at any time to modify the form of this permit, to change the method or plan of measurement herein prescribed, or to substitute other methods of measurement whenever, in his judgment, such modifications, changes, or substitutions are necessary to carry out the provisions of the act of June 29, 1906, under which this permit is issued.

Witness my hand this 16th day of August, 1907.

WM. H. TAFT, *Secretary of War.*

Extended September 2, 1911, to March 1, 1912.

Permit to Niagara Falls Power Co. for the diversion of water from the Niagara River for power purposes.

Whereas, under the provisions of an act of Congress, approved June 29, 1906, entitled "An act for the control and regulation of the Niagara River for the preservation of Niagara Falls, and other purposes," it is provided that the Secretary of War may grant permits for the diversion of water in the United States from said Niagara River or its tributaries for the creation of power, and that it shall not be lawful to divert water from said river, for power purposes, except in accordance with permits so issued by the Secretary of War; and

Whereas, upon the applications, hearings, reports, and all the proceedings by applicants for permits under the provisions of the said act, the Secretary of War, under date of January 18, 1907, filed a written opinion, directing, among other things, that a permit be issued to the Niagara Falls Power Co. for the diversion of 8,600 cubic feet per second:

Now, therefore, this is to certify that the Secretary of War hereby gives permission to the Niagara Falls Power Co. to divert 8,600 cubic feet of water per second from the Niagara River, upon the following terms and conditions:

First. The amount above named, 8,600 cubic feet per second, represents the maximum quantity of water that can be diverted at any time under the terms of this permit.

Second. The grantee shall make, under the supervision of an authorized inspector of the United States, measurements in its intake canals of such a character and at such times as may be deemed necessary to show the amount of water diverted.

Third. The grantee shall keep such records as will show at any time the combined continuous output of its power stations and of the power stations of its customers to whom water power or mechanical horsepower is furnished.

Fourth. The power stations of the grantee, and of its customers, to whom water power or mechanical horsepower is furnished, together with their oper-

ating records, shall be subject to inspection at all times by authorized inspectors of the United States.

Fifth. This permit is issued without any determination of priority of right to divert water from the Niagara River between the parties to whom such permits, for diversion, may be issued.

Sixth. The Secretary of War reserves the right at any time to modify the form of this permit, to change the method or plan of measurement herein prescribed, or to substitute other methods of measurement, whenever, in his judgment, such modifications, changes, or substitutions are necessary to carry out the provisions of the act of June 29, 1906, under which this permit is issued.

Witness my hand this sixteenth day of August, 1907.

WM. H. TAFT, *Secretary of War.*

Extended September 2, 1911, to March 1, 1912.

PERMIT FOR THE TRANSMISSION OF ELECTRICAL POWER FROM CANADA INTO THE UNITED STATES.

Whereas under the provisions of an act of Congress, approved June 29, 1906, entitled "An act for the control and regulation of the Niagara River, for the preservation of Niagara Falls, and other purposes," it is provided that the Secretary of War may grant permits for the transmission of power from the Dominion of Canada into the United States, and that it shall not be lawful to transmit electrical power into the United States from Canada except in accordance with the permits so issued by the Secretary of War; and

Whereas upon all the proceedings taken in respect of permits under the said act, the Secretary of War, under date of January 18, 1907, filed a written opinion, directing, among other things, that a permit issue to the Niagara Falls Electrical Transmission Co. for the transmission of 46,000 electrical horsepower from the Dominion of Canada into the United States; and

Whereas the said Niagara Falls Electrical Transmission Co. has made a supplemental petition that such permit provide that a part of such electrical power may be delivered to the Cataract Power & Conduit Co. (a New York State corporation for use in the United States after transformation by step-up transformers of the Canadian Niagara Power Co. at Niagara Falls, Canada, and transmission to point in the international boundary between Fort Erie, Canada, and Buffalo, N. Y., over the power transmission lines of the Canadian Niagara Power Co.

Now, therefore, this is to certify that hereby the Secretary of War gives permission to the said Cataract Power & Conduit Co. and to the Niagara Falls Electrical Transmission Co., and to such other distributing agents or companies in the United States as The Electrical Development Co. of Ontario (Ltd.) may designate to receive from the said The Electrical Development Co. of Ontario (Ltd.) at the international boundary line and to transmit into the United States 46,000 electrical horsepower upon the following terms and conditions:

First. A part of such electrical power may be received by the said Cataract Power & Conduit Co. at the international boundary over the power transmission lines of the Canadian Niagara Power Co. The remaining part of such electrical power may be transmitted into the United States over transmission circuits hereafter to be approved by the Chief of Engineers, and may be received by the said Niagara Falls Electrical Transmission Co., or by such other distributing agents or companies in the United States as the said The Electrical Development Co. of Ontario (Ltd.) may designate.

Second. So long as the said Cataract Power & Conduit Co. and the said Niagara Falls Electrical Transmission Co. shall procure from the Electrical Development Co. of Ontario (Ltd.) the right for the Chief of Engineers, or his representatives to enter upon the premises of the Electrical Development Co. of Ontario (Ltd.) and to inspect and verify their records to the satisfaction of the Chief of Engineers, and so long as the amount of power transmitted to the United States does not exceed 75 per cent of the amount herein authorized, the measurements necessary to insure compliance with the terms of this permit shall be made at the expense of the grantee at the station of the Electrical Development Co. of Ontario (Ltd.), due allowance being made for losses between the measuring station and the international boundary line.

Third. When the amount of power transmitted to the United States under the terms of this permit exceeds 75 per cent of the authorized amount, or if right of access or examination to the satisfaction of the Chief of Engineers is declined or refused at any time by the Electrical Development Co. of Ontario (Ltd.), the measurements necessary to insure compliance with the terms of this permit shall be made at suitable points in the United States near the international boundary.

Fourth. When under either of the conditions named in the paragraph immediately preceding the power imported is measured at points in the United States, such measurements shall be made by continuous record indicating watt meters of approved design, to be furnished, installed, and maintained by the grantee; continuous records shall be taken on each independent circuit entering the United States; the meters shall be kept in efficient condition, and the records shall be subject to inspection at any time by authorized inspectors of the United States.

Fifth. Except as noted below, 46,000 electrical horsepower represents the aggregate maximum loads that can be brought into the United States at any time under the terms of this permit:

(a) Momentary indications in excess of the authorized amount, due to short circuits, grounds, etc., will not be considered as violations of the permit.

(b) Peaks of load curves due to overlapping loads will not be considered as violations of the permit provided the duration of any one such peak, measured on the 46,000 horsepower line, does not exceed one hour, and provided that the total duration of such peaks in 24 hours, measured in the same manner, does not exceed two hours.

Sixth. Maps or charts, verified to the satisfaction of the Chief of Engineers, shall be filed with the Chief of Engineers, showing the exact location of all lines or circuits over which power is transmitted into the United States under the provisions of this permit; and no change shall be made in such lines or circuits without submitting at the same time to the Chief of Engineers, or his representative, a map or chart showing such change.

Seventh. One of the objects of the law being the preservation of the natural scenic conditions of the Falls and the gorge, it is stipulated that the plans for carrying the power across the international boundary be submitted to the Secretary of War for approval before work is undertaken. For the same reason, it is further stipulated that no steps be taken by the grantee, or its allied interests, as disclosed in its application for a permit toward the construction of another bridge across the Niagara River.

Eighth. The Secretary of War reserves the right at any time to modify the form of this permit, to change the method or plan of measurement herein prescribed, or to substitute other methods of measurement whenever, in his judgment, such modifications, changes, or substitutions are necessary to carry out the provisions of the act of June 29, 1906, under which this permit is issued.

Witness my hand this 17th day of August, 1907.

WM. H. TAFT, *Secretary of War.*

PERMIT TO NIAGARA FALLS POWER CO. FOR THE TRANSMISSION OF ELECTRICAL POWER FROM CANADA INTO THE UNITED STATES.

Whereas under the provisions of an act of Congress, approved June 29, 1906, entitled "An act for the control and regulation of the Niagara River for the preservation of Niagara Falls, and for other purposes," it is provided that the Secretary of War may grant permits for the transmission of power from the Dominion of Canada into the United States, and that it shall not be lawful to transmit electrical power into the United States from Canada except in accordance with the permits so issued by the Secretary of War;

Whereas upon the applications, hearings, reports, and all the proceedings by the applicants for permits under the provisions of the said act, the Secretary of War, under date of January 18, 1907, filed a written opinion directing, among other things, that a permit be issued to the Niagara Falls Power Co. for the transmission of 52,500 electrical horsepower from the Dominion of Canada into the United States;

Now, therefore, this is to certify that the Secretary of War hereby gives permission to the Niagara Falls Power Co. to receive from the Canadian

Niagara Power Co., at the international boundary line, and to transmit from the Dominion of Canada into the United States, 52,500 electrical horsepower, upon the following terms and conditions:

First. Such electrical power may be received in the United States in the first instance by the Niagara Falls Power Co. or by its distributing agents or others with whom it or the Canadian Niagara Power Co. has or hereafter may have contracts for power delivery in the United States.

Second. Measurements of the amount of power transmitted into the United States under the terms of this permit shall be made at suitable points in the United States near the international boundary by continuous record-indicating wattmeters of approved design, to be furnished, installed, and maintained by the grantee; continuous records shall be taken on each independent circuit entering the United States; the meters shall be kept in efficient condition, and the records shall be subject to inspection at any time by authorized inspectors of the United States.

Third. Except as noted below, 52,500 electrical horsepower represents the maximum load that can be brought into the United States at any time under the terms of this permit:

(a) Momentary indications in excess of the authorized amount, due to short circuits, grounds, etc., will not be considered as violations of the permit.

(b) Peaks of load curves, due to overlapping loads, will not be considered as violations of the permit, provided the duration of any one such peak, measured on the 52,500-horsepower line, does not exceed one hour, and provided that the total duration of such peaks in twenty-four hours, measured in the same manner, does not exceed two hours.

Fourth. Maps or charts, verified to the satisfaction of the Chief of Engineers, shall be filed with the Chief of Engineers, showing the exact location of all lines or circuits over which power is transmitted into the United States under the provisions of this permit, and no change shall be made in such lines or circuits without submitting at the same time to the Chief of Engineers or his representative a map or chart showing such change.

Fifth. The Secretary of War reserves the right at any time to modify the form of this permit, to change the method or plan of measurement herein prescribed, or to substitute other methods of measurement whenever, in his judgment, such modifications, changes, or substitutions are necessary to carry out the provisions of the act of June 29, 1906, under which this permit is issued.

Witness my hand this 16th day of August, 1907.

WM. H. TAFT, *Secretary of War.*

Extended September 2, 1911, to March 1, 1912.

Permit to Niagara, Lockport & Ontario Power Co. for the transmission of electrical power from Canada into the United States.

Whereas under the provisions of an act of Congress approved June 29, 1906, entitled "An act for the control and regulation of the Niagara River, for the preservation of Niagara Falls, and other purposes," it is provided that the Secretary of War may grant permits for the transmission of power from the Dominion of Canada into the United States and that it shall be not lawful to transmit electrical power into the United States from Canada except in accordance with the permits so issued by the Secretary of War.

Whereas upon the applications, hearings, reports, and all the proceedings by applicants for permits, under the provisions of the said act, the Secretary of War, under date of January 18, 1907, filed a written opinion directing, among other things, that a permit be issued to the Niagara, Lockport & Ontario Power Co. for the transmission of 60,000 electrical horsepower from the Dominion of Canada into the United States.

Now, therefore, this is to certify that the Secretary of War hereby gives permission to the Niagara, Lockport & Ontario Power Co. to receive from the Ontario Power Co. of Niagara Falls, at the international boundary line, and to transmit into the United States, 60,000 electrical horsepower upon the following terms and conditions:

First. So long as the Niagara, Lockport & Ontario Power Co. shall procure from the Ontario Power Co. of Niagara Falls the right for the Chief of Engineers, or his representative, to enter upon the premises of the Ontario Power Co. of Niagara Falls and to inspect and verify their records to the satisfaction

of the Chief of Engineers, and so long as the amount of power transmitted to the United States does not exceed 75 per cent of the amount herein authorized, the measurements necessary to insure compliance with the terms of this permit shall be made at the expense of the grantee at the station of the Ontario Power Co. of Niagara Falls, due allowance being made for losses between the measuring station and the international boundary line.

Second. When the amount of power transmitted to the United States under the terms of this permit exceeds 75 per cent of the authorized amount, or if the right of access or examination to the satisfaction of the Chief of Engineers is declined or refused at any time by the Ontario Power Co., the measurements necessary to insure compliance with the terms of this permit shall be made at suitable points in the United States near the international boundary.

Third. When under either of the conditions above named the power imported is measured at the points in the United States, such measurements shall be made by continuous record indicating wattmeters of approved design, to be furnished, installed, and maintained by the grantee; continuous records shall be taken on each independent circuit entering the United States; the meters shall be kept in efficient condition, and the records shall be subject to inspection at any time by authorized inspectors of the United States.

Fourth. Except as noted below, 60,000 electrical horsepower represents the maximum load that can be brought into the United States at any time under the terms of this permit.

(a) Momentary indications in excess of the authorized amount, due to short circuits, grounds, etc., will not be considered as violations of the permit.

(b) Peaks of load curves due to overlapping loads will not be considered as violations of the permit, provided the duration of any one such peak, measured on the 60,000 horsepower line, does not exceed 1 hour, and provided that the total duration of such peaks in 24 hours, measured in the same manner, does not exceed 2 hours.

Fifth. Maps or charts, verified to the satisfaction of the Chief of Engineers, shall be filed with the Chief of Engineers, showing the exact location of all lines or circuits over which the power is transmitted into the United States under the provisions of this permit; and no change shall be made in such lines or circuits without submitting at the same time to the Chief Engineers or his representative a map or chart showing such change.

Sixth. One of the objects of the law being the preservation of the natural scenic conditions of the Falls and the gorge, it is stipulated that the grantee shall, either directly or through the Ontario Power Co., take steps to restore the natural growth on the sides of the gorge at the point where power is now brought into the United States.

It is further stipulated that no additional power crossings shall be undertaken until the plans therefor have been approved by the Secretary of War.

Seventh. The Secretary of War reserves the right at any time to modify the form of this permit, to change the method or plan of measurements herein prescribed, or to substitute other methods of measurement, whenever in his judgment, such modifications, changes or substitutions are necessary to carry out the provisions of the act of June 29, 1906, under which this permit is issued.

Witness my hand this sixteenth day of August, 1907.

WM. H. TAFT, *Secretary of War.*

Extended September 2, 1911, to March 1, 1912.

ADDITIONAL STATEMENT OF MR. COHN.

Mr. COHN. I believe I had better say for the benefit of Congressman Cooper, who raised the question the other day, that there is positively no disposition to keep the diversion down below the limit of 16,200 cubic feet, that would prevent anyone else from getting a permit under the existing law.

Mr. GARNER. Major, will you give the committee an estimate of what it would cost your department to supervise the taking of water on this side and the importation of power from Canada?

Maj. LA DUE. I would not like to hazard an estimate now, especially without knowing how far the supervision would go. We have spent about \$27,700 since the Burton law went into effect, but a very large part of that sum went into these very elaborate investigations, which were necessary in the beginning and which are reported in these two documents.

There will be no such elaborate investigations to undertake now. It will be a question of supervision only, and the cost will be less, but how much less I would not like to say. I think it would be well to reappropriate the unexpended balance of the appropriation made by the Burton Act.

Mr. GARNER. After your investigations were made under this law, for instance, the continued annual expense would be about how much? The stationing of an officer there, would that be the expense?

Maj. LA DUE. We have not had an officer stationed there; we have one or two inspectors who go up there as needed. So far as that feature of it goes, it would probably be only the salary of one or two men.

Mr. GARNER. A very nominal expense, then, after you had made a thorough examination under this provision of the bill?

Maj. LA DUE. A nominal expense. Of course if any especial investigation becomes necessary, we will have to send parties there. In December last it became evident that the Hydraulic Co., owing to the improvements they had been making in their plant, was approaching its authorized limit of diversion, so we sent a party there—just how large a party I do not know. This party made measurements and established a rule to govern the operations of the company and fix the limit of their output.

The CHAIRMAN. If you have anything further you wish to incorporate in your statement, you have that privilege.

SUPPLEMENTARY STATEMENT OF GEN. FRANCIS V. GREENE.

Mr. Chairman, your committee has listened with very great patience on six successive days to statements and arguments of more than 30 individuals, representing a great variety of interests—Members of Congress, State officials, Chief of United States Army Engineers and his assistants, city officials, and representatives of commercial bodies, representatives of the American Civic Association, and representatives of power companies, both those which are in operation and those that have plans.

The discussion has taken a very wide range and has covered every possible topic in this connection—legal, scientific, commercial, sanitary, or emotional.

Now, out of it all it seems to me that four very serious questions have been presented for your consideration, namely, national defense, navigation, regulation of rates, and the scenic grandeur of Niagara Falls. I put that last, not because it is by any means the least important, but because it is the one concerning which there has been the greatest difference of opinion.

With your permission I will try to rehearse as accurately and as briefly as possible a summary of the testimony which has been given to you on these four points.

First. As to national defense. One might wonder just how the question of national defense comes in with the diversion of the waters of Niagara River, and the theory of it, as I understand it, is that the river might have been drained dry, so that it would offer no obstacle to an invading army. In the remote and almost unthinkable contingency of a war with Great Britain or Canada—if such a thing should have happened; if Niagara River had been drained dry—our defense to that extent would have been injured or ruined. Now, on that question there is no conflict of testimony whatever. The only testimony which you have is in these documents. The reports of the engineers state that there had been no injury to the Niagara River as a means of national defense.

The next question—navigation—is a very serious one, and I shall try to choose my words with particular care so as to state the precise nature of the testimony in these reports and what has been said to you verbally in this committee room.

The engineers, that is to say, the subordinate engineers—and by this I mean the officer in charge of the lake survey in Detroit, and his assistants—have determined after most elaborate gauge measurements and computations of a very intricate, scientific character, that there has been a slight lowering in the level of Lake Erie. It is measured in fractions of an inch. It depends upon observations extending over a period of 20 days. Further observations may confirm the deductions already made or possibly may change them, but these results are all that we have, and they are the best that we have at the present time. The channels of the Lakes are designed to have a depth of 21 feet. The effect of the wind and the waves is to change the level of the Lakes by many feet in a very few days, so that while the question of a fraction of an inch in the depth of the Lake Erie channels is not a thing, as these engineers report, which should be entirely disregarded, but being so small in comparison with the depth of the channel, it is of no practical importance. Gen. Bixby testified as to this at the first hearing on Tuesday, January 16. I do not know that I need to tell you who Gen. Bixby is. He was at West Point with me. He is an officer of very great ability who has spent a lifetime—I think it is 35 years or more since he graduated—in studying these scientific questions, especially the questions of hydraulics and of navigation on the navigable waters of the United States. I do not think there is an officer in the Engineer Corps who is so peculiarly qualified to speak on these questions of navigation as Gen. Bixby. He has been secretary of the Mississippi River Commission. In 1906 he made the preliminary reports which formed the basis of the recommendations of the International Waterways Commission at that time. Now, Gen. Bixby, I think, would not say that a fraction of an inch in the level of Lake Erie was a thing which should be neglected or disregarded, but I think he would say—exactly what he did say as I understood him when he testified—that the lowering of the Lake in comparison with the depth of the channel was so slight that it was a matter of no practical importance.

I think your committee can dismiss from your minds any uneasiness about these two first propositions—national defense and navigation.

Now, in regard to the regulation of rates. As I look at it, you have ample authority to regulate rates, but it is a question of expediency, and the testimony which has been given here in favor of the regulation of rates comes from two individuals, and two only—Mr. Hammond, city attorney of Buffalo, and Congressman Smith. Their allegation, as a basis for their request for Federal interference, is that the public service commission is either unwilling or unable to cope with the situation, and therefore they ask the aid of the United States Government to regulate the price of electricity in Buffalo. Well, I think that if that question was submitted to the voters of Buffalo it would not have more than 10 per cent in the affirmative. There is dissatisfaction, as I understand it, about prices for electricity, and the chamber of commerce itself initiated proceedings for an investigation, but they initiated it in the way that the law prescribes, and they wish to bring it before the tribunal which the State of New York has provided to hear and determine such cases, and they are satisfied to abide by the findings of that tribunal. Now, I am told that this letter has been sent within the last two days by the chamber of commerce to your chairman:

"Referring to report in newspapers that the statement has been made to you that the public service commission is unable to cope with the situation of charges by electrical companies for power, I desire to say that that is not the opinion of this body, and to express to you on the contrary that it believes that the machinery devised and in successful operation for the control of public service corporations in general and of the electrical situation in particular is entirely adequate to deal with the subject, and it desires further to state that this is the general feeling in this community.

"This body has originated and promoted an investigation into the charges made in Buffalo for electrical power, which is now pending. It desires to secure for its citizens a readjustment, and in many cases a reduction, of present charges, and it is satisfied with the tribunal established by law to decide the issue."

The chamber of commerce in Buffalo has a membership of more than 3,000. It includes practically every man in any business of any magnitude in Buffalo.

Among its members are the consumers of probably nine-tenths of the power used in Buffalo, practically all of the power except that which is used in private houses. Now, these citizens of Buffalo have a dispute with a corporation under the laws of the State of New York as to the value of the goods or services which one sells and the other buys. The State of New York has provided a tribunal to hear and decide such cases. It, of course, does not decide until it has heard both sides. The corporation and the consumer are both willing to submit their dispute to this tribunal. They are both citizens of New York. I submit that under these circumstances there is absolutely no ground to ask for Federal interference.

Now, the remaining question, and frankly it is the most important question, is the preservation of the scenic grandeur of Niagara Falls. Certain gentlemen have assumed to have a mandate from the people to be the only guardians of Niagara Falls. That mandate is not recognized universally. You have heard testimony in regard to one corporation which moved its plant a mile or two up the river, and thereby lost efficiency, solely for the purpose of preserving the scenic beauty of Niagara. As to the companies that I represent, we have figured up and tried to ascertain about what it has cost us in order to make our works conform to the surroundings and harmonize with the grandeur of Niagara Falls, and it is a little more than \$1,000,000 which we have spent for the purpose of putting our pipes in the rock instead of on the surface and of constructing buildings which were the best that architectural skill could design; so that I can assure you for those I represent and, I think, for the other power companies at the Falls that they regard the scenic grandeur at Niagara quite as much as some who claim to be the sole guardians of it.

Now, no one has appeared before you to advocate injury of Niagara Falls. No one has appeared before you to advocate the diversion of water on either side of the river to an amount which, in his opinion, would injure the scenic grandeur of Niagara. The only question is, what is the limit to which the diversion can be carried without injuring the beauty of the Falls. On that opinions differ, and on that you have had different testimony submitted to you. I called attention at a previous hearing to the testimony given by eminent engineers in 1906 that a diversion of 40 per cent of the total flow, or 80,000 cubic feet per second, would not materially injure the Falls. The Burton law, enacted as a result of that hearing, placed the limit at 15,600 cubic feet on the American side, and by restrictions on transmission from Canada it was apparently intended to indirectly limit the diversion of water on the Canadian side to about the same amount, or some 30,000 to 31,000 cubic feet on both sides, which is the amount which Maj. Ladue has just told you was the maximum taken out in the month of December. Now that you have three opinions, the engineers in 1906—and as to these engineers I would like to say that they had been observing the Falls every day for four previous years; their office windows looked on the Falls, and they were eminent hydraulic engineers—their opinion was 80,000 cubic feet. When the treaty was negotiated it is a matter of common report that during the 18 months that it was under negotiation the negotiators sought the best expert advice that they could get as to the amount of water that could be safely diverted without injuring the Falls. They fixed it at 56,000 cubic feet. The scenic society come here and now say that the treaty is wrong and they must have additional legislation to provide that a less amount shall be taken out than the treaty permits, and in support of their position they quote from these documents. Now, I would like to say something about these two documents which perhaps the committee does not understand. This volume, Senate 105, and the only one from which the civic association has quoted, is dated November 30, 1908. This document, H. R. 246, is dated September 30, 1911. The earlier document was the result of two years' observation; this is the result of five years' observation, and the Secretary of War describes it as "A comprehensive report of the operations of the United States Lake Survey under the appropriation for the preservation of Niagara Falls from June 29, 1906, to June 29, 1911, which summarizes and supplements the previous reports."

Now, the quotations from this larger report were correctly made, but they are only a part of what is said, and even in this larger report quotations could be made on the other side. Some of them I have incorporated in the printed statement which I filed at a previous hearing. The statements in this report, based on five years' study, are, to say the least, much more conservative, much less alarming than the statements in that report; and I refer in detail to these reports because the civic association rests their case on these reports—and

so do we, speaking for the power companies which I represent—and I think the other power companies also.

As the civic association has quoted these reports of subordinate engineers I refer you to the final statement of Gen. Bixby, the Chief of Engineers, the head of the whole engineering organization, made in your presence a few days ago, and with all these reports before him. His statement, I think, was that as to the diversion of 4,400 additional cubic feet on the American side, it was so small an addition to the amount now being diverted that it would produce no appreciable effect upon the scenic grandeur of Niagara Falls; and as to the importation of power from Canada, Congress can not in that manner control the amount of water to be taken out on the Canadian side. His statement was, and he repeated this three or four times, that the demand for power in Canada was growing so rapidly that if it was not imported into the United States, in a very few years, in his opinion (I think he said three years) it will all be taken on the Canadian side; so that you can not preserve the scenic grandeur of Niagara Falls, even if it were in danger, by restricting these importations. Now, I am in position to give you some figures on this question of the growth of consumption of power in Canada which confirm Gen. Bixby's statement derived I have no doubt from a general study of the situation. But the specific facts are these: In the last three years the use of Niagara power in the United States has increased 50 per cent. In the same period the use of Niagara power in Canada has increased 400 per cent. Why, since the figures were made up in this report (Doc. No. 246) last July, the consumption in Canada has increased 20 per cent.

On the question of scenic grandeur I say that you can not save the scenic grandeur of Niagara Falls, if it is in danger from Canada, by restricting the importation of power from Canada, because Canada will use it if it does not come to the United States.

Now, I repeat that we rest our case on these documents. If carefully studied and considered they show that the scenic grandeur of Niagara Falls will not be endangered by the diversion of the water provided for in the treaty.

I submit to the committee that the testimony which you have heard in these elaborate hearings leads to legislation along these lines:

The carrying into effect of the treaty, the diverting of the amount of water on the American side which the treaty authorizes, and suitable provisions for supervision by the Secretary of War to see that the amount which the treaty authorizes to be diverted is not exceeded. The question of who shall receive this 4,400 cubic feet per second, I think, can best be decided by the proper authorities of the State of New York, who will undoubtedly give very elaborate hearings before reaching a decision, in which the rights of all parties can be brought out. As to importation the treaty is silent. It was designedly so. It was intended to give this country the benefit of all the power which Canada would allow to be exported. There has been submitted nothing in the way of testimony before your committee to justify you in attempting to modify, abridge, or restrict this treaty.

STATEMENT OF MR. WATROUS.

Mr. WATROUS. The association which I represent would like the privilege, in view of the preceding argument, to read the brief which I presented this morning, which I did not present at that time. I shall ask the privilege of reading it at this time, as it is one based on this last report, which we did not get access to until last Tuesday.

The CHAIRMAN. It is already in the record?

Mr. WATROUS. Yes, sir.

The CHAIRMAN. That will do.

Gen. GREENE. The quotations from this larger report were correctly made, but they were only a part of what was said, and even in this larger report quotations could be made on the other side.

The statements from this report, based on five years of study, are, to say the least, much more conservative, much less alarming. I will not use the word "sensational." The statements in that report—I refer in detail to these reports because the civic association rests its case on these reports and so do we. Speaking of my power company,

the one that I represent, and I think the others, we rest our case on those reports, but on a fair interpretation of them, and as the civic association has quoted these reports of the subordinate engineer, I refer you to the final statement of Gen. Bixby, the Chief of Engineers, the head of the whole engineering organization, made in your presence a few days ago, and with all of these reports before him. I listened very carefully, and I think his statement was this:

As to the diversion of 4,400 additional cubic feet on the American side it was so small an addition to the amount now being diverted that it would produce no appreciable effect upon the scenic grandeur of Niagara Falls, and as to the importation of power from Canada, that was not a matter which Congress could control, so far as ultimately controlling the amount of water to be taken out on the Canadian side is concerned, because, and he repeated this three or four times, the demand for power in Canada was growing so rapidly that if it was not imported into the United States in a very few years, in his opinion, and I think he said three years, I listened very carefully, it would all be taken on the Canadian side. So that you can not preserve the scenic grandeur of Niagara Falls even if it were effected by restricting this importation.

Now, I am in a position to give you some figures on this question of growth of the consumption of power in Canada, which confirm Gen. Bixby's statement, derived, no doubt, from a general study of the situation, but the specific figures are these:

In the last three years the use of Niagara power in the United States has increased 50 per cent. In the same period the use of Niagara power in Canada has increased 400 per cent. Since these figures were made up in this report of last July the consumption in Canada has increased 20 per cent.

Mr. DIFENDERFER. Is it not because they are getting power cheaper?

Gen. GREENE. Whatever is the cause, I am speaking about the scenic grandeur. You say that we hired the newspaper people to raise this issue for scenic grandeur.

Mr. DIFENDERFER. I said so?

Gen. GREENE. Yes; it is hard to discuss such a proposition as that. But on the question of scenic grandeur I say that you can not save the scenic grandeur of Niagara if it is danger, from Canada, by restricting the importation of power from Canada, because Canada will use it if it does not come into the United States.

Mr. DIFENDERFER. We have no control of that. I appreciate that.

Gen. GREENE. Now, I repeat that we rest our case on these documents, fairly studied and considered. At any time the scenic grandeur of Niagara Falls will not be endangered by the diversion of water provided for in the treaty.

Mr. SHARP. In that connection I see the second document, Senate Document No. 105 and House Document No. 246. You approve then more of the House document because it is several years later. Reading from that document on page 13 I find the following language used:

The total changes have resulted in an appreciable decrease in the volume of flow there, due to the deficient depths at the end of the Falls, to a marked interference with the continuity and the length of the crest line, unquestionably marring the beauty of this cataract. While natural causes have been chiefly instrumental in effecting these changes, it appears indisputably that the artificial diversion of the power companies have materially aided to the injury of

interference with the scenic grandeur of Niagara Falls and the additional diversions now contemplated will increase this damage.

Gen. GREENE. The natural causes have been the chief instrument.

Mr. SHARP. But it very plainly states that we could not increase the diversion any more without damage to the Falls.

Gen. GREENE. That is the engineer's opinion, based upon the record of gages, which shows a less volume of water going over the Falls. He does not say that he can see any difference with his eye.

Mr. SHARP. He does say in the same connection that after these observations had been made, which he said were made under most favorable circumstances:

The effect, then, of the total diversion and of the natural change of regimen since 1906 will account for the lowering on the Canadian and Goat Island ends of the Falls, and the mean lake level is over 15 inches and $3\frac{1}{2}$ inches, respectively. The present return to the low stage of the Great Lakes is due to deficiency in rainfall and runoff has had the further effect at Terrapin Point of 2 inches.

Gen. GREENE. Due to three causes, lack of precipitation, wearing away of the apex, and diversion by the power companies. Three causes contributed to that.

Now these photographs—have you ever been to Niagara?

Mr. SHARP. Quite a number of times.

Gen. GREENE. Have you been there within recent years?

Mr. SHARP. Not within five or six years.

Gen. GREENE. Do your photographs, taken last July, give you a different idea of the Falls from what you remember?

Mr. SHARP. Not at all.

Gen. GREENE. That is the whole case.

Mr. SHARP. There was a great mass of water flowing over there.

Gen. GREENE. There is a great mass of water flowing over there now. It is magnificent.

Mr. DIFENDERFER. You stated that your company tried to preserve the scenic grandeur by placing your building in the rocks?

Gen. GREENE. Part of our structures.

Mr. DIFENDERFER. Are these faithful reproductions here in these books?

Gen. GREENE. In what books?

Mr. DIFENDERFER. Of the Niagara Power & Conduit Co.

Gen. GREENE. That is not my company.

Mr. DIFENDERFER. What company—are you not interested in this company?

Gen. GREENE. The Niagara Power Co.?

Mr. DIFENDERFER. Yes.

Gen. GREENE. Not at all.

Mr. DIFENDERFER. It looks to me as though these buildings were set out on the plains.

Gen. GREENE. That is the other company. If you would like to see our buildings, I have photographs of them.

Mr. DIFENDERFER. I do not see any of the rocks, General.

Gen. GREENE. I said we put some of our structures there.

Mr. DIFENDERFER. I understood you to say that you put your buildings there.

Gen. GREENE. Oh, no; I did not say that. I said our pipes, etc.

Now I submit to the committee that the testimony which you have heard in these elaborate hearings leads to legislation along these lines. The carrying into effect of the treaty, the diverting of the amount of water on the American side which the treaty authorizes, and suitable provision for supervision by the Secretary of War to see that the amounts which the treaty authorizes to be diverted is not exceeded. The question of who shall receive this 4,400 cubic feet per second, I think can best be decided by the proper authorities of the State of New York, who will undoubtedly give a very elaborate hearing before they reach a decision, so that the rights of all of the people can be brought out.

As to importation, the treaty is silent. It was designedly so. It was intended to give this country the benefit of all of the power which Canada would allow to be exported, and there has been, I submit, nothing in the way of testimony before your committee to justify you in attempting to modify, abbreviate, or restrict this treaty.

Mr. SHARP. I have before me the treaty. What has it to say in regard to the duration of its terms?

Gen. GREENE. It runs for five years. The treaty—ratifications were exchanged at Washington May 5, 1910, and that is the official date of the treaty. The date when the ratifications were exchanged, not the date when it was signed. It was signed in 1909.

ARTICLE XIV. The present treaty shall be ratified by the President of the United States, etc.

Mr. GARNER. What have you to say to the suggestion of Congressman Smith with reference to retaining in the Secretary of War the right to cancel permits after the Public Service Commission of New York would not give what the people considered reasonable rates. In other words, giving the Secretary of War—making the Secretary of War the appellate court as between the power companies and the Public Service Commission of New York?

Gen. GREENE. Do I understand you, a Democratic Representative from Texas, to ask me what I think of an appeal from the government of New York to the Secretary of War?

Mr. GARNER. Well, I was not advocating that; I was asking you what you had to say about it.

Gen. GREENE. I think it is a monstrous proposition, absolutely inconsistent with the dignity of the State of New York. That is my opinion and I am a Republican.

Mr. GARNER. I wanted to see how far you were going to follow the doctrine in this direction in concentrating the power at Washington instead of the State of New York.

Gen. GREENE. There is no question whatsoever, under the decision of the Supreme Court—I am not a lawyer, but I have got business sense enough to understand some decisions—that the United States has exclusive jurisdiction so far as it extends to navigation. This treaty has fixed a limit to the water to be diverted on the American side. The Federal authorities should see that that treaty is carried into effect. Beyond that we have nothing to do with.

Mr. DIFENDERFER. Do you believe that we are bound to allow these companies to take the limit?

Gen. GREENE. I believe it is expedient to allow them to take the limit in view of the facts.

The CHAIRMAN. Is not that a question for the Government to determine?

Gen. GREENE. That is a question for the United States.

The CHAIRMAN. If the Secretary of War determines how much shall be taken, is it for the State to say who shall have it?

Gen. GREENE. Yes, sir; that is where the line is clearly defined. Navigation belongs to the United States. The Attorney General was here to try to preserve what he thought—I gathered—what he thought were the immemorial rights of New York, to preserve them from national legislation.

The CHAIRMAN. I agree with the law as cited by the attorney general of the State of New York.

Mr. COOPER. While this statement by the civic association goes into the record, yet it would be brought more forcibly to the attention of the committee if the representative of that association could reply to these statements made by Gen. Greene by just reading these few pages, and I ask that that be done in justice to the association which he represents.

The document referred to was read by Mr. Watrous.

Mr. CURLEY. Can you tell me what membership your association has in the United States?

Mr. WATROUS. I can tell you in this way, Mr. Curley. It has some 2,500 what we call annual members, but included in that are some 700 or 800 affiliated societies, composed, we will say, of from 100 to 1,000 members, representing several hundred thousand in the aggregate.

Mr. CURLEY. What salary is paid the president?

Mr. WATROUS. No salary.

Mr. CURLEY. Do you receive a salary?

Mr. WATROUS. Yes, sir; I am the only salaried officer of the association.

Mr. CURLEY. You are paid by the association?

Mr. WATROUS. Yes, sir.

Mr. CURLEY. You are employed permanently on legislative matters?

Mr. WATROUS. No, sir; the legislative matters—Practically all I have done have been in attendance on these meetings; I am the administrative secretary with a great deal of work accumulating on my desk right now.

The CHAIRMAN. Is there any other gentleman who desires to be heard this afternoon?

Mr. SMITH. I would just like to say in connection with that letter presented by Gen. Greene that so far as I know the chamber of commerce has not held a meeting, and no individual has a right to send a communication to this committee purporting to speak for that body. Why was it not signed by the president and secretary if it was an official matter?

Mr. CURLEY. I would like to ask Gen. Greene the date of that letter?

Gen. GREENE. I have not seen the original letter so I do not know. I understood that the letter had been sent to the chairman of this committee on January 24.

The CHAIRMAN. I will state that I received the letter.

Is there any other gentleman here who desires to be heard? If not, the hearings will be closed with the exception of hearing a gentleman who will be here to-morrow morning at 10 o'clock.

The committee will now take a recess until 10 o'clock to-morrow morning.

Thereupon, at 5 o'clock p. m., the committee took a recess until 10 o'clock a. m. to-morrow, January 27, 1912.

COMMITTEE OF FOREIGN AFFAIRS,
January 27, 1912—10 o'clock a. m.

The committee reconvened, pursuant to taking of recess, at 10 o'clock a. m.

The CHAIRMAN. The committee took a recess yesterday for the purpose of hearing Mr. Blackstock this morning. I understand Mr. Blackstock is here and desires to go on and we will now hear from him.

**STATEMENT OF GEORGE H. BLACKSTOCK, REPRESENTING THE
NIAGARA FALLS ELECTRIC TRANSMISSION CO.**

Mr. DIFENDERFER. Is yours a Canadian company?

Mr. BLACKSTOCK. Yes, sir; under the provisions of the Burton Act, Mr. Chairman, there was distributed amongst the Canadian companies a certain percentage of the power which the provisions of the act enabled to be imported into the United States from Canada. Our share of that 125,000 horsepower was 46,000 horsepower, the balance being distributed between the Ontario Power Co. and the Canadian-Niagara Power Co., which is a branch of the American-Niagara Power Co., and a small insignificant block allotted to the International Railway, which operates the line on either side of the Niagara River.

We are interested in preserving the rights of the Niagara Falls Electric Transmission Co. with reference to their proportion of the power, of the 46,000 horsepower, which has been allotted to them by the permit of the Secretary of War. We desire to appear before the committee because we understood that some time during the discussion some question had been raised as to why the 46,000 horsepower, which we are entitled to transport to the United States, had not been exported, and we desired to represent to the committee that that resulted from the circumstances and certain difficulties which we had with reference to transmission. We procured the incorporation of a transmission company at Albany and also acquired the franchise of the Niagara Falls Lighting & Power Co., or rather the Gas & Electric Lighting Co., and have altogether spent in the neighborhood of a half a million dollars in order to put ourselves in a position to transmit the amount of energy which the permit of the Secretary of War entitles us to import into the United States.

Now we are completing our arrangements with reference to that.

In the meantime, of that amount, 12,000 horsepower have been transmitted from time to time to the Buffalo Cataract & Power Co.

for use there, and which has been used in connection with the lighting of the city of Buffalo, and to some extent has been used as a reserve power, and has been very efficient for that purpose, and our only object in appearing before the committee is to prevent any misapprehension on the part of the committee as to the nonuser of the balance of their power.

It is the intention of the company to vigorously place that at the disposal of any persons who might desire to have access to it.

Mr. CLINE. You are purely a transmitting company, or do you generate power?

Mr. BLACKSTOCK. No; we are a generating company. And we desire to put ourselves into a position to maintain our business and to import the 46,000 horsepower which the permit of the Secretary of War enables us to do, and in furtherance of that we are entering into arrangements now with the company about to start an important plant at La Salle, by which we shall sell to them 12,000 horsepower, and up to the present time we have answered any demands that have been made upon us for power in the United States to the extent of 12,000 horsepower, to which I have referred. We are now making arrangements which will enable us to import the balance of 46,000 horsepower as and when it may be required. Of course, as you will understand, it is necessary for us to have the tenants of the power in sight, because we have got to make our transmission arrangements conformably to the exigencies of these tenants when they appear, and we are now making arrangements with reference to the company at La Salle, of which I have spoken, and also carrying out the arrangements that we have made under the powers vested in us by the acquisition of the Niagara Falls Gas and Lighting Co.

We desire to ask the committee to bear in mind that we have the fullest interest in maintaining the permit given to us by the Secretary of War and intend to use it as we have opportunity to do.

Mr. DIFENDERFER. I would just like to ask a question. You can at any time refuse, can you not, to transmit power to the United States?

Mr. BLACKSTOCK. I think so.

Mr. DIFENDERFER. In the event of industry being created there for the use of power, it would be to your advantage to use it at home, would it not?

Mr. BLACKSTOCK. Well, I should have thought not, sir, if it were in the immediate area of Niagara Falls.

Mr. DIFENDERFER. Are you associated in any way—that is, your company—with transmission of power to Windsor?

Mr. BLACKSTOCK. No.

Mr. DIFENDERFER. That is another company?

Mr. BLACKSTOCK. That is another company; yes, sir. We have no transmission. Our transmission is practically to Toronto.

Mr. DIFENDERFER. Then you have no connection, have you, with the Hydro-Electric Co.?

Mr. BLACKSTOCK. None whatever.

The CHAIRMAN. I understand Mr. Bowen desires to make a brief additional statement. We will hear him now.

**STATEMENT OF MILLARD F. BOWEN, REPRESENTING THE ERIE
AND ONTARIO SANITARY CANAL CO.**

Two eminent engineers have stated that the diversion already made will not affect the beauty of the Falls. Maj. Charles Kellar, of the Corps of Engineers, reports in one paragraph this:

While the preceding conclusion as to the effect produced upon the Falls by the existing diversion is a statement of opinion based upon ascertained facts, the interest of justice seems to demand the further statement that in my opinion the damage already done, and that which may be anticipated from further diversion and from the impending fall in the level of Lake Erie, may be largely, if not entirely, remedied by a submerged dam, placed in the bed of the river immediately above the Horseshoe Falls. The dam as proposed and planned would serve to change the direction of the flow so as to increase the streams that feed the falls at Terrapin Point and at the Canadian shore. The decrease in the mighty volume that overflows the center of the apex of the horseshoe would not be noticeable. If built, the dam should be paid for by the interested power companies, but Canada and the United States should do the actual work under some form of international agreement. A very direct result of the construction of this submerged dam would be a diminution in the rate of recession of the apex of the horseshoe. This result is extremely desirable. (P. 15, S. Doc. No. 105, Rept. of Maj. Charles Kellar.)

The other engineer referred to as having a plan is the one connected as the chief engineer of our company, Isham Randolph, of Chicago, who was invited last year by President Taft to present his plan to the Canadian authorities, and that is to stretch two cables across from Goat Island to Canada above the Horseshoe Falls, and use these cables for transmission of reenforced concrete blocks, fastened together, immense, large, and heavy concrete blocks, and drop these blocks into the channel, into what is called the "thalweg" above Horseshoe Falls, where the recession is very dangerous and continues year by year and may result in great damage. The dropping of those blocks into the deepest part of the center of the Horseshoe Falls will diffuse the water to both sides toward the edge of the Falls and without affecting the beauty of the center it will increase the beauty of the sides.

As Mr. Randolph has said, and give even further amount of water for commercial purposes without affecting the beauty of the Falls.

Now, those are a partial answer, if not complete answer, to the complaints of the civic association, which has maintained that there will be irreparable damage to the Falls.

**CLOSING SUMMARY BY ROME G. BROWN IN BEHALF OF THE
NIAGARA FALLS POWER CO. AND CANADIAN NIAGARA CO.**

Mr. Chairman and gentlemen of the committee: After listening to Gen. Greene's admirable summary of the facts shown at this hearing and of his logical conclusions therefrom, I felt that little if anything could be added to emphasize the justice of the position which is here taken by the companies which I represent. However, despite the indisputable facts which have been shown, some of the questions which have been asked and quite a number of statements that have been made during the hearing, would indicate that there is still some misapprehension in regard to the attitude of these companies toward

the questions which are before you. Let me, therefore, briefly summarize certain of the points.

THE SITUATION OF THE NIAGARA FALLS POWER CO.

This company has certain vested property rights by virtue of (1) its riparian ownership, (2) its grants by the next lower riparian owner, the hydraulic company, and (3) patents and grants from the State of New York, which State is riparian owner below, both it and the hydraulic company, and which State also holds whatever sovereign interests there are of use or control in the waters of Niagara River upon the American side, subject only to the sovereign right of the Federal Government to prevent unreasonable interference with navigation. These property rights, as defined by the law and as described in the various grants referred to, include the right to take from the Niagara River above the Falls a quantity of water sufficient to make 200,000 horsepower and to discharge the same below the Falls by means of a tunnel passing by and through the lands of the two lower owners; that is, of the hydraulic company and of the lands of the State of New York used for a park. These rights were acquired previous to the year 1900, and a plant had been constructed and put in operation, requiring them, as it now does, at least 10,000 cubic feet per second of water to operate the same on an economical basis, although that quantity is not sufficient for its maximum capacity. It was thus operating that plant for years before the passage of the Burton Act in 1906, but since the passage of that act has drawn only 8,600 cubic feet per second, submitting temporarily to the terms of that act until the treaty should be made, as contemplated by that act, adjusting between the two countries the matter of diversion. It claims to operate by virtue of its riparian rights, although permits under the Burton Act have been accepted and complied with, relying upon the faith that its rights and equities would be recognized in the final adjustment of the matter under the terms of the treaty. The Treaty of 1909 recognized the injustice of the restrictions of the Burton Act, as neither expedient nor necessary to preserve scenic grandeur, and as unjust and inequitable to this company, and fixed the limits of diversion at a quantity which would allow this company 1,400 cubic feet per second more and the hydraulic company 3,000 cubic feet per second more and thus allow each company to operate at its normal economical capacity of 10,000 cubic feet per second for this company and 9,500 for the hydraulic company. No other power plants exist on this side and none could be constructed for the purpose of utilizing the 4,400 cubic feet per second increase provided in the treaty over the 15,600 fixed by the Burton Act as the total diversion on this side, the additional quantity being too small to warrant the expense of any new plant.

It has been assumed and stated in newspaper articles, in statements by representatives of the civic association, and even by a Senator of this Congress (in a statement made in public while these hearings were in progress), that this company is asking for an unreasonable increase in the amount of diversions allowed on this side with the intention of further installations in order to utilize such increase, and

that its position here is one of a further "attack" upon the scenic grandeur of the Falls. You gentlemen who have heard the facts here know this is not true. The treaty fixes the total limits of diversion upon this side so as to forbid any further installations than had been made prior to the Burton Act. Although this company claims the legal right to double its installation and to operate the same, it asks here only that the treaty limits be observed, and that thereby it may be enabled to operate economically its installation which had been installed and put in operation before the question of scenic grandeur was ever thought of in Congress. This company originally installed with particular respect for scenic grandeur and protected the landscape and scenic beauty of the Falls, although at great expense and loss of head. The undisputed facts presented here show that the extra amount of diversion up to the treaty limits will not affect scenic grandeur nor any public interest.

SITUATION OF THE CANADIAN NIAGARA POWER CO.

Before the Burton Act was thought of, this company had installed and had in operation a plant upon the Canadian side taking its water from the pool below the upper crest, so that it could not possibly have any effect upon navigation. It also constructed with regard to scenic beauty. It acquired its riparian rights solely from the Canadian Government, and as consideration therefor agreed to reserve one-half of its developed power for use in Canada when required. This company, as the other two Canadian investors, were intended to be protected by the treaty of 1909, so far as consistent with the public interests involved in the question of scenic grandeur, and therefore that treaty made the total limit of diversion upon the Canadian side 36,000 cubic feet per second, which was no more than sufficient to supply the demand of the three installations already made and projected upon that side by those three companies. The limits of total diversion upon both sides having been fixed by the treaty, the excuse for prohibition of importation to the American side ceased to exist; and therefore the treaty contained no such prohibition. This was a concession to, or rather proper adjustment with Great Britain in behalf of Canada to protect not only the public interests of Canada but the interests of Canadian investors. It was an adjustment also acquiesced in by this country in making the treaty, because it was recognized to be for the public interest of this country, where industrial development had created a demand which would absorb all the power developed upon this side and all the power that could be imported from Canada. This company, therefore, with the other Canadian companies, join with the distributing companies upon the American side, to demand that the question of importation be left as the treaty left it—without any prohibition or restriction.

THE EQUITABLE POSITION OF BOTH THE AMERICAN AND CANADIAN
POWER COMPANIES.

Certain facts have been demonstrated at this hearing:

(1) That the total diversions allowed by the treaty can have no appreciable effect upon navigation or upon the integrity of the boundary line nor injure military defense—that therefore there is no ground for Federal interference, the right to which is limited to preventing an unreasonable interference with navigation:

(2) That, although the protection of scenic grandeur is not within the proper scope of Federal legislation (for if it belongs to any sovereign power, in this case it belongs only to the State of New York), nevertheless the total diversions allowed by the treaty will not have any appreciable effect upon the scenic grandeur of the Falls, and in any event the extra 4,400 feet allowed by the treaty on the American side can have no effect; and that, with artificial diversions so limited, the danger to scenic grandeur lies wholly in the effect of natural causes, like erosion, which dangers, together with any speculative injury by diversion, can be averted by artificial means;

(3) That the total diversion allowed on the Canadian side will surely and quickly be made and that over that matter Congress can have no control, and that any restriction or prohibition upon importation to this side is objectionable for the following reasons:

(a) The entire diversion upon the Canadian side will surely be made within a short time, and a prohibition of importation will not help scenic grandeur or any other public interest;

(b) The American market is ready and is now demanding all the power that can be imported beside all that can be developed on this side. The demand is increasing faster than the power can be furnished, even with free importation. With importation prohibited, industrial development stops upon this side and progress upon the Canadian side. That one of the two countries which first gets hold of the power will keep it;

(c) The cutting off of the supply which would exist otherwise than for prohibition or restriction tends to increase the price;

(d) The prohibition can not be sustained on the ground that it is a tariff regulation, for it is not a general prohibition, but a special and local one;

(e) It is repugnant to the spirit and terms of the treaty of 1909 by which each country agreed with the other that each might have the privilege of a certain limited diversion, with the American market in mind, and Canadian investments were made on the strength of the right to import, and the limit of that right was impliedly fixed by the treaty. A prohibition by Congress is simply saying to the Canadians that we have given them the right to divert 36,000 on their side, but we will attempt to control the amount of that diversion, temporarily at least, by a provision repugnant to the treaty and at the same time control the diversion upon this side as we see fit.

(4) It has further been shown that as the diversion of the extra 4,400 cubic feet per second allowed by the treaty on this side can not affect scenic grandeur or any public interest, the treaty amount should

be observed; that, however, is too small an amount to make any new power plant feasible. The navigation, sanitary, and power project suggested by Mr. Bowen is not only illegal and impracticable, but is entirely useless as a sanitary measure, as stated by Dr. McLaughlin, of the United States Health Bureau. More than that, it is not only chimerical but is proposed by a company that has obtained no real estate rights whatever and involves a \$35,000,000 proposition based upon \$100,000 capital, which capital has been paid in just enough to make a few maps and pay promoters. The 4,400 feet increase must of necessity go to the present plants, and of right should go to them in such quantities as to allow normal economical operation of their plants, as the same were installed before diversions were attempted to be limited.

(5) The vested legal rights of the Niagara Falls Power Co. (and I assume it is the same with the Hydraulic Co.) are urged here, not for the purpose of getting specific legislation allotting the extra power to them directly, but for the purpose that their rights and equities may not be ignored to the extent that the proposed act shall prevent those rights and equities being taken into consideration in the future by some official person or body to whom the authority of allotment of this power shall be delegated. It might be unwise for Congress to attempt to say that these companies should have the extra water, or in what proportions. It would be still more unwise to make any provisions so that these two companies, or either of them, should be shut off from the extra power, or that one company should be preferred to the other. That should be left to the good judgment of the person or commission authorized to make the allotment, with the opportunity for hearing to these companies and to any other interests that might appear, whether such authority be the Secretary of War or a New York commission or the State itself. Consequently, the amount limited to be permitted to any one company should not be less than 10,000 cubic feet as a total. The present limitation of 8,600 to any one company would mean that some of the extra 4,400 cubic feet could not be allotted to any company; for the present permits to these companies are, respectively, 8,600 and 6,500, while their normal economical capacities are, respectively, 10,000 and 9,500, and the 4,400 is not sufficient to warrant any new plant by any new company, and much less would a lesser quantity warrant such new construction.

(6) While it would be hypocritical for either the Niagara Co. or the Hydraulic Co. to claim that they would not really like to have the entire 4,400 feet, it would be unfair to either company to include any provision in the act which would of necessity result in giving to the other company the entire 4,400 feet. Such would be the effect of a provision giving it to the company which operates at the highest head, and therefore with the most efficiency, because that would exclude the Niagara Co., whose equities are particularly strong upon this point. The Niagara Co. constructed at a loss of some 50-foot head for the very purpose of preserving scenic beauty and set its works far up the river, using a long canal by which some head was necessarily lost. This was done under the advice of the best engineers and landscape artists. The Niagara Co. would ask of the 4,400

feet only 1,400 and would willing leave the other 3,000 to the Hydraulic Co. It would be absurd and unjust that legislation, enacted to protect scenic grandeur, should penalize a company which had shown the most regard for that interest and in doing so had sacrificed in efficiency, by providing that its very sacrifice for that public interest should be made the ground of discriminating against it and in favor of another company whose works, in appearance and in location, had been installed comparatively with a disregard for scenic grandeur.

THE QUESTION OF RATES.

It appeared conclusively that the State of New York, through its public service commission has full power and authority to regulate rates to consumers, and that there is no need of any exercise of such power in this matter by Congress, even if it had authority. Such attempted exercise by Congress would be an interference with the right of New York. This applies both (1) to rates for power produced on the American side and (2) rates for power imported from the Canadian side.

AS TO RATES FOR POWER PRODUCED ON THE AMERICAN SIDE.

These rates, being for power produced and distributed on the American side and in the State of New York, are manifestly within the sole jurisdiction of that State. As a general rule the producing company sells in bulk to a distributing company, as, for instance, the Niagara Falls Power Co. delivering to the Cataract Power & Conduit Co. at the city limits of Buffalo at a certain price at that point, which includes the transmission from the producing plant to the city limits. With the rate thus fixed at the city limits, the public can have no concern if the ultimate cost to the consumer charged by the distributing company is a fair rate. The price at the city limits is \$16 per horsepower per annum, and the cost of such transmission alone, including a fair return on the necessary transmission line and apparatus, is about \$6.50 per horsepower (see statement of Mr. Barton). This makes the charge figured at the bus-bars of the producing company about \$9.50 per horsepower, which is approximately the same as that paid by the Canadian Hydro-Electric Commission to the Canadian producers. The prices paid by consumers in the city of Buffalo are shown by the following schedule of rates, which are published by the Cataract Power & Conduit Co., and which are uniformly adhered to:

Two-charge rate.

FIRST CHARGE FOR DEMAND.

One dollar per kilowatt per month for the maximum 2-minute kilowatt demand during the month.

SECOND CHARGE FOR ENERGY.

	Per kilowatt hours.
For 1,000 kilowatt hours or less per month.....	\$0.02
Excess over 1,000 kilowatt hours up to 2,000 kilowatt hours.....	.015
For 2,000 kilowatt hours.....	.015
Excess over 2,000 kilowatt hours up to 3,000 kilowatt hours.....	.012
For 3,000 kilowatt hours.....	.012
Excess over 3,000 kilowatt hours up to 5,000 kilowatt hours.....	.01
For 5,000 kilowatt hours.....	.01
Excess over 5,000 kilowatt hours up to 10,000 kilowatt hours.....	.008
For 10,000 kilowatt hours.....	.008
Excess over 10,000 kilowatt hours up to 20,000 kilowatt hours.....	.0075
For 20,000 kilowatt hours.....	.0075
Excess over 20,000 kilowatt hours up to 40,000 kilowatt hours.....	.007
For 40,000 kilowatt hours.....	.007
Excess over 40,000 kilowatt hours up to 80,000 kilowatt hours.....	.0066
For 80,000 kilowatt hours.....	.0066
Excess over 80,000 kilowatt hours.....	.0064

Example.—A 75 kilowatt (100 horsepower) motor running 10 hours per day, taking 75 kilowatt (110 horsepower) at times as a maximum, but averaging throughout the day 56 kilowatt (75 horsepower) would in 25 days per month consume current as follows:
 $56 \times 10 \times 25 = 14,000$ kilowatt hours.

The charge for this at the above rates would be as follows:

Demand charge, 75 kilowatt, at \$1.....	\$75.00
Energy, 10,000 kilowatt hours, at \$0.008.....	80.00
4,000 kilowatt hours, at \$0.0075.....	30.00
Total monthly charge.....	185.00

Demand rate.

Applicable to 24 hours' use of power, and based on monthly maximum demand.

	Per electric horsepower per annum.
When the demand equals or exceeds 100 horsepower, at the rate of.....	\$36.00
When the demand equals or exceeds 200 horsepower, at the rate of.....	32.50
When the demand equals or exceeds 300 horsepower, at the rate of.....	30.00
When the demand equals or exceeds 500 horsepower, at the rate of.....	27.50

Service is delivered to consumer's premises at 2,200 volts, 3 phase, 25 cycles, alternating current.

The above was procured and furnished me by Mr. Barton in accordance with the suggestion made by some of the committee, to be included in the record of this hearing. These rates are no higher than many of the rates to consumers in Canada charged by the distributing companies there for power furnished by the Hydro-Electric Commission, whether furnished directly by that commission or through subsidiary distributing companies. The Toronto rates are even higher, and at Bridgeburg the price for quantities of 200 horse-

power is \$39 as against \$32.50 in Buffalo (see Mr. Barton's statement). Under the strictest construction, the American companies, producers and distributors, are entitled to a fair return on their investment, including a fair profit. In Canada, theoretically, the Hydro-Electric Commission supplies at cost. On this side it may be true in one sense of the word that there are two "profits"; but it is clearly shown that each company only gets a fair profit on its capital investment and that the cost of such investment in Buffalo for the distributing company is very great, being increased by the obligation to put conduits underground and other expensive requirements. If this expense were not incurred by the distributing company it would have to be by the producing company, and the two profits, so-called, are both only equal to the one profit which would be allowed if the producing company distributed and delivered to the consumer (see statement of Mr. Barton and Judge Kenefick). As a matter of fact, no one is demanding a change of rates. It has been impossible to get 100 consumers of power furnished by the Cataract Power & Conduit Co. to enter a protest. The question of rates is manifestly a political one (see statement of Corporation Attorney Hammond). In any event, all the machinery and power for investigating and regulating rates, as well as the proper jurisdiction thereof, rests with the State of New York and its public-service commission. On the American side the State already has its return in State taxes as well as free electricity for light and power and also for use of the State in the State Reservation at Niagara and the public buildings thereon (see chap. 513, New York Laws, 1892), and to the city of Buffalo and other cities in taxes upon liberal assessments, not only upon the property of the power company but also upon the property of industries attracted by cheap power.

The standard 10-hour meter power at a rate which affords a maximum use of 100 horsepower and an average use of 75 horsepower for a month of 250 hours amounts at the city of Niagara Falls to \$144.17, as against over eight times that price in Boston, six times that rate in Philadelphia, over four times that rate at Chicago and New York, and nearly four times that rate at Cleveland. At Buffalo the rate for the same amount of power is \$185, the extra price over Niagara Falls being on account of the extra cost of transmission to Buffalo, but the Buffalo rates are only a small percentage of rates in other cities not located so as to avail themselves of the Niagara power.

The industrial growth of the cities using Niagara power from 1900 to 1905 is shown by the following figures, showing values of manufactured output:

Buffalo, from \$126,156,839 to \$172,115,101; Niagara Falls, from \$8,540,184 to \$16,915,786; Lockport, from \$5,352,669 to \$5,807,908; Rochester, from \$59,668,959 to \$82,747,370; Syracuse, from \$26,546,297 to \$34,823,751.

In 1909 these figures for Niagara Falls had increased to \$28,652,000, or about 80 per cent. Similar increases are shown in the other cities. Most of this increase was prior to 1907, since which time the restrictions on importation and the limitations upon this side, fixed by the Burton Act, have kept industrial development in these cities comparatively at a standstill.

RATES FOR POWER PRODUCED ON THE CANADIAN SIDE.

As already shown, the Canadian Hydro-Electric Commission take the power distributed upon the Canadian side at the bus-bars of the producing plant and pay all the expense of construction, maintenance, and operation of transmission facilities. More than that, the Canadian plants are located upon the property belonging to the Province of Ontario and hold under leases, instead of being independent proprietors, as are the American power companies. As a consideration for this concession, the Canadian companies are supposed to deliver certain quantities to the Canadian commission at cost. However, it has been shown that, considering the transmission by the Niagara Company on this side to the point where the charge is \$16 per horsepower per annum, delivered in large quantities under contract, the price delivered in bulk by the producing companies is practically the same on this side as upon the Canadian side. It has also been shown that the cost to the consumer upon the Canadian side argued in favor of American private management as an economy and an advantage to the consumer.

As to the price to the consumer on this side of imported power, it goes without saying that the price delivered on this side in bulk could not possibly be the same as the price delivered in bulk at the bus-bars of the producing plant on the Canadian side, for the cost of transmission across the river is expensive, and a fair return upon such cost and of installment and operation must be added (to fix the price of power delivered at the American side of the river) to the cost of delivering the same power on the Canadian side, and for power delivered in bulk after further transmission to the city of Niagara Falls or the city of Buffalo a further cost must be added. The figures already given show that the prices prevailing for delivery at the city limits of Buffalo or to the consumer in the city of Buffalo can not be less for power imported from Canada than that which is charged for power produced on this side.

The whole discussion and showing with regard to rates shows that the demand and need is not for lower prices but for more power, and that this demand is for all the power that can be produced upon this side and for all the power that can be imported from the other side, free from prohibition or restriction, up to the full amounts provided in the treaty of 1909.

SCENIC BEAUTY PLUS INDUSTRIAL GRANDEUR.

Sentimentalists who, without investigation and with misconception of the facts, blindly worship an exploded theory and echo a mere hue and cry, as do our friends the president and secretary of the civic association, phrase and quote phrases eloquently framed upon the grandeur of the world-renowned Niagara. The theory upon which their campaign was based prior to the Burton Act of 1906—that the scenic grandeur of the falls was in danger by reason of diversions for power—has been exploded by three years of investigations and reports by the United States survey, upon the basis of which provisions of the treaty of 1909 were made. Those expert conclusions have been confirmed by two years of further careful investigation and experience. They conform with the experience and observation of every

observer of the falls—that no appreciable change has been caused to the scenic grandeur by power diversions. Nevertheless, by an appeal to prejudice these agitators have brought forth denunciations from the press and have falsely created the impression that the two American companies have made and are now making an “attack” upon Niagara; that because they are seeking to have the treaty provisions observed and confirmed by a new act which shall replace the mere conjectural provisions of the temporary measure, known as the Burton Act of 1906, with an act that shall recognize the limitations considerably, conservatively, and expressly fixed by the treaty, they are asking authority for unlimited diversions with a view to further installation. The cry has been put forth that Niagara is again in danger, although that question has been scientifically passed upon and the provisions necessary to avoid such dangers were fixed and established by the treaty which it is now sought to have enforced. They ignore the fact that the Niagara Falls Power Co. have not made any additional installations since long before the Burton Act was passed and that its installation is for only one-half the capacity to which it has a right under the law and that it only asks here for a small fraction of the increase fixed by the treaty in order properly and economically to operate its installation. They fail to recognize that that company, from the very start, has studiously and consistently and continuously shown its regard for the scenic grandeur of the falls, even at expense and loss to itself, voluntarily incurred before others had raised the question of scenic grandeur. No one has more appreciation or regard for the beauties of Niagara and for their preservation than the officers and stockholders of this company. Its contest here is not antagonistic to the cause of scenic beauty but for another grandeur, the utilization by man and for the benefit of man and communities of the energy which is daily going to waste over the falls; not all that energy, but only such use thereof as is, in fact, and as has been found by scientific investigation to be entirely consistent with the preservation of scenic beauty and of every other public interest. The industrial grandeur which they stand for is not inconsistent with the cause of scenic beauty, but it is one which appeals to the highest sense of beauty, power, and achievement.

Mr. H. G. Wells, in *Harpers' Weekly* of July 21, 1906, said:

“The dynamos and turbines of the Niagara Falls Power Co., for example, impressed me far more profoundly than the Cave of the Winds; are, indeed, to my mind, greater and more beautiful than that accidental eddying of air beside a downpour. They are well made visible, thought translated into easy and commanding things. They are clean, noiseless, and starkly powerful. All the clatter and tumult of the early age of machinery is past and gone here; there is no smoke, no coal grit, no dirt at all. The wheel pit into which one descends has an almost cloistered quiet about its softly humming turbines. These are altogether noble masses of machinery, huge, black, slumbering monsters, great sleeping tops that engender irresistible forces in their sleep. They sprang, armed like Minerva, from serene and speculative, foreseeing, and endeavoring brains. First was the word and then these powers. A man goes to and fro quietly in the long clean hall of the dynamos. There is no clangor, no racket. Yet the outer rim of the big generators is spinning at the pace of a hundred thousand miles an hour; the dazzling clean switchboard, with its little

handles and levers, is the seat of empire over more power than the strength of a million disciplined, unquestioning men. All these great things are as silent, as wonderfully made, as the heart in a living body, and stouter and stronger than that. * * *

"When I thought that these two huge wheel pits of this company are themselves but a little intimation of what can be done in this way, what will be done in this way, my imagination towered above me. I fell into a day dream of the coming power of men and how that power may be used by them. * * *

"For surely the greatness of life is still to come; it is not in such accidents as mountains or the sea. I have seen the splendor of the mountains, sunrise and sunset among them, and the waste immensity of sky and sea. I am not blind because I can see beyond these glories. To me no other thing is credible than that all the natural beauty in the world is only so much material for the imagination and the mind, so many hints and suggestions for art and creation. Whatever is, but the lure and symbol toward what can be willed and done. Man lives to make—in the end he must make, for there will be nothing left for him to do.

"And the world he will make, after a thousand years or so.

"I, at least, can forgive the loss of all the accidental, unmeaning beauty that is going for the sake of the beauty of the fine order and intention that will come. I believe—passionately, as a doubting lover believes in his mistress—in the future of mankind. And so to me it seems altogether well that all the froth and hurry of Niagara at last, all of it, dying into hungry canals of intake, should rise again in light and power, in ordered and equipped and proved and beautiful humanity, in cities and palaces and the emancipated souls and hearts of men. * * *

Prof. Walter Frewen Lord said in the Toronto Mail and Empire of December 4, 1906:

"I went over the Niagara power plant at the Falls the other day. It was a revelation to me. The cataract was wonderful, of course, but it struck me that the work of man in harnessing it was far more wonderful. It seemed to me the greatest thing that was ever attempted—the greatest thing on earth."

Rev. J. N. Hallock, D. D., said recently in the Christian Worker and Evangelist:

"A new Niagara, 'harnessed,' but not hushed, with its beauty unmarred and its torrential fury undiminished, now greets the astonished eyes of pilgrims to this picturesque region. The hand of the engineer has left the mighty cataract untouched, while adding to the attractiveness of nature's greatest wonder. Niagara is practically just it is was 10 or 20 years ago, impressive in its combination of picturesque beauty and awe-inspiring grandeur. The rapids and whirlpool still excite the admiring wonderment of men. But there is much more than the Falls and the scenic beauties of the river to interest and charm those who visit this new world Mecca.

"I am not sure but that the popular apprehension regarding the possible destruction of the Falls by the water companies has increased the tide of travel in this direction this summer. Thousands of persons no doubt actually believed they were gazing upon the cataract for the last time. Natural Niagara is still a spectacle of beauty and power; industrial Niagara is a wonderful demonstration of man's

mastery over the forces of nature. The works of the engineer which use the waters of Niagara River to drive the wheels of industry are even more spectacular than the cataract itself. * * *

"After rushing the turbine wheels beneath these power houses, developing a total of 110,000 horsepower, the water passes through a tunnel a mile long under the city of Niagara Falls, and empties into the lower channel under the first steel bridge. Over 1,000 men were engaged continuously for more than three years in the construction of this tunnel, which called for the removal of more than 300,000 tons of rock and the use of more than 16,000,000 bricks for lining.

"As these power houses represent the first attempts to 'harness' Niagara upon a big scale and embody the latest achievements of electrical engineering, they are visited yearly by thousands, and form one of the attractions of the Niagara regions.

"It is in no small measure due to the energy, courage, and perseverance of the directors of the Niagara Falls Power Co. and their associate engineers that Niagara Falls owes its present importance as an industrial center.

"Upon October 4, 1890, ground was broken at Niagara Falls, N. Y., for the initial power installation of the Niagara Falls Power Co. The trial development was for 15,000 horsepower. At that time three small towns, with a combined population of less than 10,000, were contained in the limits of what is now the city of Niagara Falls. The assessed valuation of all three towns was about \$7,000,000. Five years later the first electrical power from the initial installation was delivered commercially to the Pittsburgh Reduction Co. for the manufacture of aluminum. To-day, 16 years after the breaking of ground for the tunnel, the aggregate amount of power developed by the Niagara Falls Power Co. and its allied interest, the Canadian Niagara Power Co., is about 160,000 horsepower, with additional capacity in course of construction amounting to 60,000 horsepower. Niagara Falls is now a city of almost 30,000 inhabitants, with an assessed valuation amounting to over \$20,000,000. Such in brief are some of the results accomplished by the men and engineers who harnessed Niagara Falls. Less than 4 per cent of the total flow of water over Niagara Falls has been diverted by these companies and its beauty and grandeur are unimpaired."

The establishment of the great works of the Niagara Falls Power Co., the pioneer not only in the establishment of great hydraulic and electrical units, but the first projector of extensive power transmission in America, brought forth the following comment in the New York Tribune by Mr. Royal Cortissoz, an art critic of the first rank:

"Being utterly ignorant of these things, I won't commit the impertinence of pretending to appreciate the genius embodied in those colossal fabrics. All I can tell you is that they made me feel as though I was looking on while some unthinkable Olympian went gloriously mad, in a kind of divine frenzy, and expressed himself in terms raising the art of the Egyptian temples to a higher power, giving to things of overwhelming bulk an immeasurable life and purpose, and somehow putting over them a glamour of the subtlest delicacy and charm. It was like a fairyland created for the pranks of the high gods. It was like a force of nature tamed and held by a silken thread. I won't say it was like the most wonderful thing in the world. It is itself the most wonderful thing in the world."

THE CAMPAIGN OF SCARE.

It is a significant fact that during hearings extending over two weeks, given the widest publicity, there appeared before this committee only two persons who had any other suggestion to make than that the full limitations as to diversion and as to importation, allowed by the treaty of 1909 should be the basis of the proposed act of Congress. The first of these was Mr. Spencer, who claimed to be a photographer and engineer, and who explained the extent of the natural erosions of the Horseshoe Falls, and who pretended to state that the change in the appearance of the crest of those falls, which had developed in the past 20 years, was due to artificial diversions of water for power. The value of his evidence, or lack of value, was shown by the fact that he claimed that the barring of the crest upon the Canadian side of the Horseshoe Falls which enabled the Canadian park commissioners in 1902 to fill in 250 feet of that crest line for the purpose of improving the scenic effect of that Falls by obliterating certain thin streams which existed only at times of high water, was caused by artificial diversions for power when as a matter of fact the artificial diversions had not begun at that time.

The only other person who appeared to advocate a retention of the provisions of the Burton Act or anything less than the limitations of the treaty of 1909 was the civic association, through its president and its secretary. They made the same arguments as were made in 1904 and 1905, before any official investigations or reports had been made. During the hearings before this committee these officers neglected to bring before this committee any evidence, even by the way of statement, in support of their contention or in opposition to the contention of every other private and public interest which was there represented, the producers and consumers upon both sides of the river—the State of New York, the city of Buffalo, and the cities of Windsor, Ontario, and Detroit, Mich., and others—all urging an act confirming the terms and limitations of the treaty. The record made by these hearings was conclusively against the contention of these agitators and in favor of that made by all the representatives of both public and private interests who appeared before the committee. The record speaks for itself, but with this the civic association was not content. It set out deliberately to throw a scare into the members of this committee as well as into other Members of the Congress. At great expense and with a great deal of labor, as one of the officers has since boasted, it was arranged that this committee and other Members of Congress should be flooded with letters and telegrams in order to overcome the cool and deliberate judgment of the committee, which it seemed, could reach only one conclusion from the evidence which had been brought before it at the appointed place and time. The result was a deluge of communications, by letters and telegrams, solicited and procured for the purpose of creating an impression upon the members of this committee that the public were interested to prevent any extension of the present legislative limitations. There is in fact no such public interest or public demand for any restrictions narrower than those contained in the treaty of 1909. The public interests and demands may be evidenced by the fact that on the evening of January 26 last the author of the Burton bill had been for some days announced to deliver a public lecture upon conserva-

tion, with particular reference to the preservation of Niagara Falls, in a large hall in Brooklyn, N. Y., with a seating capacity of about 3,000. There were by actual count just 47 people present, including the stenographer who was sent to make a verbatim report of his address. Through the same influences have resulted misrepresentations in the public press in regard to these hearings, against which some of those who appeared before you have been obliged to defend themselves.

We may expect that such methods will be continued. But the public have a right to expect that, upon the record which is made at these hearings, this committee will act judicially, fearlessly, and independently and frame and recommend an act with provisions sufficient properly to carry out the provisions of the treaty and which at the same time shall be sufficiently protective of all the public and private interests involved.

The CHAIRMAN. The hearings on the Niagara Falls power bills are now closed.

Congressman Smith desires to present resolutions by the Board of Trade of Niagara Falls, which the reporter will incorporate in the minutes.

BOARD OF TRADE OF NIAGARA FALLS, N. Y.,
January 25, 1912.

HON. CHAS. B. SMITH, *Congressman*,
Washington, D. C.

SIR: Inclosed resolutions adopted at a general meeting of the board of trade, held Tuesday, January 23, 1912.

Yours, respectfully,

CHARLES WOODWARD,
Secretary.

Resolved, That the board of trade of the city of Niagara Falls, N. Y., in meeting assembled, hereby favors an amendment to the Burton Act, which will allow the diversion of an additional 4,400 cubic feet of water per second from the Niagara River for power purposes.

Resolved, That if such additional diversion be allowed by Congress, the city of Niagara Falls make such arrangements to be represented before the officer or body having power to grant permits for diversion of such additional 4,400 cubic feet of water, to protect the rights and interests of the city of Niagara Falls in respect thereto, and to obtain such determinations as shall be for the benefit of the whole city.

Resolved, That a copy of this resolution be sent to the Member of Congress from this district for presentation to the proper committee in Congress having the matter under consideration.

CHARLES WOODWARD,
Secretary.

STATE OF NEW YORK, PUBLIC SERVICE COMMISSION, SECOND DISTRICT,
Albany, March 15, 1911.

MR. FRANK C. PERKINS, *Consulting Engineer*,
Erie County Bank Building, Buffalo, N. Y.

DEAR SIR: Below please find data asked for per your postal card of January 21, 1911:

Cataract Power & Conduit Co.—Power generated, none. Power purchased, 219,165,196 k. w. h. Gross price k. w. h. purchased, \$759,829.96. K. w. h. delivered to private consumers, 70,380,534; also 113,177,447 k. w. h. sold to railroad and other corporations for which a gross price of \$694,083.38 is received. Revenue from k. w. h. delivered to private consumers, \$628,116.90. Maximum load kilowatts, 48,170; date when carried, December 6, 1910. Dividends, \$150,000; four dividends during year, one of 3 per cent, three of 1½ per cent

on \$2,000,000 par value of stock. Number of meters connected, 612. Number municipal arc lamps, 347; incandescent lamps used for municipal lighting purposes, k. w. h., 1,845. Revenue, municipal, \$179.23. Municipal heat and power, k. w. h., 19,247,500. Revenue from municipal heat and power, \$93,521.85.

Buffalo General Electric Co.—Power generated, none. Power purchased, 39,653,140 k. w. h. Power purchased from the Cataract Power & Conduit Co., 38,521,720; and Niagara, Lockport & Ontario Power Co., 1,131,420. Gross price k. w. h. purchased, \$312,430.97. K. w. h. delivered to private consumers, 18,377,047. Two hundred and thirty-three thousand one hundred and forty-four k. w. h. sold for commercial flat rate lighting which is not included in this item, the net revenue from which is \$13,849.53. Revenue from k. w. h. to private consumers, \$348,509.12. Maximum load kilowatts, 9,430. Date when carried, November 30, 1910. Dividends, \$222,440. Four dividends during year of 1½ per cent on \$3,724,000 par value of stock. Number of meters connected, 9,258. Number municipal arc lamps, 3,680; also 440 incandescent lamps used for municipal lighting purposes. K. w. h. municipal purposes, 5,583,497; includes 69,928 k. w. h. incandescent street lighting, 169,702 municipal building lighting, 47,758 municipal heat and power. Revenue municipal, \$214,517.41. Municipal heat and power k. w. h., 47,758. Revenue from municipal heat and power, \$2,724.24.

Niagara Falls Power Co.—Power generated, 484,599,431. Power purchased, 99,928,778 k. w. h. Gross price k. w. h. purchased, \$229,836.18. K. w. h. delivered to private consumers, none; 551,748,383 k. w. h. sold commercial, railroad, and other corporations for which a gross price of \$1,486,935.40 is received. Revenue from k. w. h. delivered to private consumers, none. Maximum load kilowatts, 62,200; date when carried, December 5, 1910. Dividends, \$335,000; four dividends during year at 2 per cent on \$4,197,500 par value of stock. Number of meters connected, not given. Number of municipal arc lamps, none. K. w. h. municipal purposes, none. Revenue municipal, none. Municipal heat and power, k. w. h., none. Revenue from municipal heat and power, none.

Yours, very truly,

J. S. KENNEDY, *Secretary.*

STATE OF NEW YORK,
PUBLIC SERVICE COMMISSION, SECOND DISTRICT,
Albany, March 19, 1910.

MR. FRANK C. PERKINS, *Consulting Engineer,*
Erie County Bank Building, Buffalo, N. Y.

DEAR SIR: Answering your inquiry of the 14th instant, the report of the Buffalo General Electric Co. for the year 1909 shows as follows: Purchased from the Cataract Power & Conduit Co., 31,698,320 k. w. h., at a gross price of \$259,337.25; purchased from Niagara, Lockport & Ontario Power Co., 732,780 k. w. h., at a gross price of \$13,864.09. Total number of k. w. h. delivered to consumers during the year, 21,374,324; revenue therefrom, \$964,799.54; miscellaneous revenues, \$2,655.99. Maximum load, 8,300 kilowatts, December 23. Dividends during the year, four dividends, each of 1½ per cent on \$3,724,000 par value of stock. Increase in surplus during the year \$27,573.49. Number of meters in Buffalo, 7,841; Lackawanna, 199; Blasdell, 11. Connected load, kilowatts: Buffalo, 22,622; Lackawanna, 257; Blasdell, 91.

Cataract Power & Conduit Co.—K. w. h. purchased from Canadian Power Co., Niagara Falls Power Co., and Toronto Power Co., 181,531,061, for a total gross price of \$724,649.06. Total number of kilowatts sold, 177,296,138, for a revenue of \$1,210,880.33; miscellaneous revenue, \$1,049.76; total revenues, \$1,211,930.09. Maximum peak load not shown. Total dividends during the year, two dividends of 3 per cent on \$2,000,000 stock. Increase in surplus during the year, \$40,994.22. Number of meters, 530; connected load, 80,000 e. h. p. Number of consumers, 454.

Niagara Falls Power Co.—K. w. h. generated, 417,256,803; purchased, 77,765,292. Sold, 458,481,883, for a revenue of \$1,290,912.66, and miscellaneous revenues of \$74,179.95, making total revenues for the year, \$1,365,092.61. Maximum load, 60,000 kilowatts, December 10. No dividends. Decrease in surplus during the year, \$239,646.69. Number of meters, 112; connected load, 70,870 kilowatts. Number of consumers, 29.

Regarding your inquiry, "Total kilowatts capacity, generated or produced," I am unable to interpret this inquiry.

Very respectfully,

W. J. MEYERS,
Statistician.

ARGUMENT OF THE HON. FRANCIS LYND STETSON BEFORE THE SECRETARY OF WAR.

MR. SECRETARY: By your invitation, the representatives of the Niagara Falls Power Co. and the Canadian Niagara Co. now appear before you upon their application for your permit to transmit from Canada and to receive in the United States electric power generated in Canada from the works of the Canadian Niagara Co., to an amount not less than that indicated in the report of your engineer, Capt. C. W. Kutz, enlarged in accordance with the views of the American members of the International Waterways Commission.

Under the act of June 29, 1906, adopted upon the report of the House Committee on Rivers and Harbors, presented by its chairman, Judge Burton, after protracted hearings and personal inspection, you were authorized to grant permits in the aggregate for the transmission of 350,000 electric horsepower from Canada. Of this amount the transmission of 190,000 electric horsepower is to be permitted after practical experience shall have demonstrated the effect upon Niagara Falls of transmitting 160,000 electric horsepower from the Canadian side. Your engineer, Capt. Kutz, and the three commissioners, who at the hearing before you on July 12, 1906, were justly termed by Mr. McFarland,¹ "the very able governmental commission which has looked into the physical details of this question,"² have investigated the conditions and have submitted you their reports that your discretion may be exercised to the extent of now permitting transmission of 160,000 electric horsepower, with conditional enlargement as stated by the American commissioners.

Their calm, lucid, and impartial report upon this point has stirred to opposition Mr. J. Horace McFarland, president and spokesman of the American Civic Federation, some of whose extraordinary statements may well be considered at the outset, for if well founded the allegations of Mr. McFarland would preclude any transmission at all.

At the hearing in July, Mr. McFarland referred to himself as a "white blackberry," and as the "lone representative of the people." Since then and since the reports of your advisory officers he has "gone to the country" with printed broadsides for the newspapers, intended to induce letters and telegrams to you to overrule your advisers, and making allegations so violent and so inaccurate, that, as I suggested in July the source from which they emanate can not be regarded as strictly responsible; that is, as feeling bound to substantiate them. This charge is material and proper for present consideration, for, if well founded, it must relieve you from the necessity of giving serious attention to his heated appeal, or to "the flood of personal letters" thereby invited. Of course, the burden is upon me to support this charge of irresponsible and inaccurate assertion; for at the July hearing, referring to Mr. McFarland's extreme statements, I said that if the effect upon Niagara were to be as serious as he anticipates, I should be with him entirely.

Therefore, it is due to the gravity of the interests involved that I should indicate some of the important errors of Mr. McFarland doing grave injustice to men not less honest than he.

SOME MISSTATEMENTS BY MR. MCFARLAND.

1. Mr. McFarland states that the Canadians already have cut off 500 feet of the Horseshoe Falls "to accommodate a power company," and again "to give a better chance to one of the power companies."

This statement is absolutely untrue, and upon July 12, 1906, Mr. McFarland was informed of that which is the truth, namely, that whatever was done in this particular was done by the order of the commissioners of the Queen Victoria Niagara Falls Park not for the purposes of any power company but for

¹ In his excess of zeal in a cause which in its intention is highly meritorious, Mr. McFarland has made attacks upon our companies so unfounded as to compel me to dissect and to refute them. This necessarily gives to my remarks more of a personal turn than I desire, for I understand that Mr. McFarland has been and is a useful public citizen. I have nothing to say in derogation of his character or his motives, though in this discussion, like the cowboy in the Western mining camp, he does seem to be "uncommon free with his gun."

² These are the same gentlemen to whom in his third emergency call, dated November 19, Mr. McFarland refers, as "the corporation-favoring International Waterways Commission." No one now or hereafter, not even upon careful investigation of this question, can venture to differ from Mr. McFarland's decisions, without attracting his virulent comment.

the improvement of the Queen Victoria Park in the exercise of the exclusive jurisdiction of the commissioners.

This is stated by the commissioners as follows in their seventeenth annual report for the year 1902, before any Canadian power companies were in operation:

"At Table Rock the recession of the Falls has of late years bared a large area of the river bed, and advantage has been taken of the surplus material from the works in progress to reclaim all this area and provide a new and most attractive point from which to view the Falls and gorge" (p. 45).

And again (at p. 8):

"The filling in of the shore line above the Falls by excavated material from the tunnels will increase the park area very considerably and will permit the roads and walks being constructed on the margin of the river, which will greatly improve the views of the upper rapids and at the same time cover the foreshore, which in some places has become exposed by the recession of the waters owing to the breaking away of the cataract."

The arrangement here referred to by the commissioners was embodied in a plan delivered by the commissioners to the contractor, Mr. A. C. Douglass (now mayor-elect of Niagara Falls), who complied with such plans because of the instructions of the commissioners and not for any purpose or advantage of any power company.

On July 12, 1906, when the Secretary was at Niagara, the facts as last given were stated to Mr. McFarland by Mr. Douglass in the presence of Mr. P. P. Barton, general manager of the Niagara Falls Power Co. It was pointed out that the filling did not in any way benefit any power company and was not desired by any power company, and that the small streams cut off were insignificant from the scenic standpoint.

As reported from the Canadian commission, the facts are as follows: After the fall of Table Rock and the consequent erosion of the concavity of the Horseshoe Falls the current sought and deepened the central channel, exposing the higher margin of the Canadian shore. To reclaim this exposed margin was the continuous purpose of the Canadian commissioners from their appointment in 1887, prior to any power development. In pursuance of this purpose they have caused to be reclaimed an area which, measured along the crest line of the Horseshoe Falls, extends 400 feet, but at right angles to the original shore line only 175 feet, and this reclamation they deem to be for the public benefit. Of the 400 feet reclaimed 150 feet had been reclaimed prior to 1895.

If, as usual, Mr. McFarland doubted the truth of any statement favorable to the power companies, it would have been easy for him to ascertain the facts from the Canadian commissioners. But he has chosen to make a derogatory and untrue assertion, notwithstanding forewarning of its falsity, and thus has invited the renewal of the charge of irresponsibility, which now I must repeat.

Since the foregoing was written the Canadian Niagara Power Co. has received from the Queen Victoria Niagara Falls Park commissioners the following letter, finally and utterly destroying the basis of Mr. McFarland's twice-repeated libelous charge:

QUEEN VICTORIA NIAGARA FALLS PARK COMMISSIONERS,
Toronto, November 20, 1906.

CANADIAN NIAGARA POWER CO.,
Niagara Falls, Ontario.

DEAR SIRS: Referring to the following statement contained in the pamphlet entitled "Imminent Danger to Niagara Falls," viz, "they have already cut off 500 feet of it" [Horseshoe Falls] "to accommodate a power company!" I have only to state that the instruction to your company to deposit the waste material from tunnels, and so forth, on the margin of the river was for the purpose of improving the scenic conditions of the river shore. Owing to the continued falling away of enormous masses of rock at what might be called the apex of the Horseshoe Falls, drawing the water from the shore line into the center of the river, the river on the Canadian shore had become dry, exposing large areas of unsightly bowlders and ragged rocks.

The commissioners, therefore, thought it well to take advantage of the work of excavation which was then in progress, in order to remedy these unsightly conditions brought about by the water receding from the shore line.

So far from the commissioners being under the dictation of your company or of any other power company in this particular, they acted according to their best judgment, and they believe they have succeeded in enhancing the æsthetic

conditions of the Horseshoe Falls, as well as of the shore line approaches thereto.

Believe me, yours, truly,

J. W. LANGMUIR, *Chairman.*

2. As to the amount of water likely to be withdrawn, Mr. McFarland makes the following extraordinary misstatements:¹

(a) "A recent examination of the tailraces and channels intended to turn the water into the Niagara River after it has been used in the great turbine wheels of the existing Canadian plants, shows that their aggregate section is 68 by 72 feet. The velocity of water now beginning to rush through these vast channels is at least five times that of a rapidly flowing river. Is it likely the volume of water which will pass at Niagara speed through a channel as wide as a city boulevard and as deep as a six-story office building will not make any difference in the volume of the Falls?"

The aggregate section of 68 by 72 feet given by Mr. McFarland would be a prism of 4,896 square feet, which is about three times the aggregate of the actual cross sections of the tailraces of the three Canadian developments, whose measurements are as follows:

	Square feet.
C. N. P. Co. tunnel, cross section-----	405
Electrical Development Co. cross section, approximately-----	514
Ontario Power Co. tailrace, approximately-----	720
Total -----	1,639

(b) Mr. McFarland further states:

"Another computation shows that the water it is proposed to abstract on the Canadian side alone would make a rapidly flowing river 1,685 feet wide and 18 feet deep"—

and in another place—

"a rapidly running river nearly half a mile wide and 18 feet deep."

The engineers of the Niagara Falls Power Co. advise me that this statement is even more wide of the truth than those already dissipated.

The amount of water on both sides which under the temporary permits of the Secretary, and the report of Capt. Kutz, it is proposed now to abstract would be 26,100 feet per second.² This volume of water, flowing out of a river 18 feet deep and 1,685 feet wide, would make a "rapidly flowing river" only if this term, borrowed from Mr. McFarland, could be applied to a stream running at the rate of less than half a mile an hour, which may be compared with the water in the Schoelkopf Canal that runs about 5 feet per second or approximately 4 miles an hour.

(c) Mr. McFarland endeavors to heighten the peril by stating that—

"The volume of water thus withdrawn will more than equal the present average outflow at the mouth of the Hudson, Delaware, and James Rivers combined."

But these are tidal rivers, and the outflow at their mouths is inconstant, and is not susceptible of comparison with the current of Niagara, which at all times is a rapidly flowing stream. It is possible that because of the slowness of current, all of these three tidal rivers in their entire volume at their mouths would be inadequate to the regular production of 350,000 horsepower; but we repeat, in the present case, terms of horsepower are not suitable terms for comparison. As already observed, Mr. McFarland himself has stated the aggregate section of the water which he charges is to be withdrawn, viz, a prism of 68 by 72 feet, this being three times the prism actually contemplated. But his imagined prism would be but an insignificant fraction of the prism of the mouth of any one of the three rivers named by him, much less of the three rivers in combination.

(d) Mr. McFarland scoffs at the contention that the withdrawal of the amount reported by your advisers will have no appreciable effect upon the scenic grandeur of Niagara Falls, and cites—

¹ In a published interview the eminent physician and citizen of Buffalo, Dr. M. D. Mann, refers to these statements as well as other statements of Mr. McFarland, deprecating any doubt of their truth. If, as now shown, the absolute error of these statements had been known to Dr. Mann and to the many others who have been misled thereby, they could not have expressed themselves as they have done.

² Present permits, American side, 8,600 + 4,000. Mr. McFarland's statement for 160,000 horsepower. Canadian side, 13,500.

"the sober finding of the American members of the International Waterways Commission, that 'the glory of Niagara Falls lies in its volume of water rather than in its height or in the surrounding scenery.'"

But, as stated by Mr. McFarland in his circular of November 5, this "is the very same body that has recommended to Secretary Taft to permit the admission of 100,000 electric horsepower from the Canadian side." Why should the capacity or the fairness of this body now be questioned?

(c) Mr. McFarland flouts the engineers who insist that no damage will be done to the Falls, and "those who bring the oldest inhabitant of Niagara to testify that he can not see any difference." He prefers to rely upon "recent visitors to the Falls," who "insist that there is already evident a substantial reduction in their glory."

The suggestions of Mr. McFarland as to a present apparent depletion of Niagara must have been refuted by the personal observation of the Secretary upon the day of the hearing at Niagara, July 12, 1906, when the works upon the American side were in full operation. I am not the "oldest inhabitant"; but after nearly 20 years of continuous observation of the volume and flow at Niagara Falls, I am prepared to maintain, and I challenge successful denial of the proposition, that upon that day there was no diminution of the volume or flow of the Niagara River which was susceptible of observation. Neither is there now any appreciable diminution.¹

This is in accordance also with the testimony of the water gauges, which at least three times a day for more than 15 years have been maintained and examined by the Niagara Falls Power Co. and by the Schoelkopf Co. These observations show not only that there has been no observable depletion of the American Falls, but that there has been no material diminution, even when tested by water gauges. The fact is that the draft upon the American side has resulted in the reestablishment of the régime of the river by contribution from the Canadian side, where the water is deeper. (See Bogart, post.)

It has been suggested by some, though doubted by others, that the additional waterways furnished by the tunnels tend to increase the rapidity of the flow in the river itself and thus to draw more rapidly upon the ample reservoirs of Lake Erie. In its effect upon this reserve the largest proposed diversion would be insignificant. (See Proceedings before the River and Harbor Committee, Prof. Williams, p. 237; contra, Gen. Ernst, p. 237; Brackenridge, p. 204.)

¹ This accords with the view of Mr. C. M. D. Burton, whose highly intelligent and able plea for Niagara's preservation in Leslie's Weekly for November 8, though not wholly free from error, is commendable for its purpose to treat the subject fairly. Mr. Burton, in substance, concedes that "the Falls have not suffered perceptibly as yet," and states that "measurements show that the present diversions have lowered the water at the brink a few inches," though he thinks that possible future diversions to the full extent authorized, "may well be subject for apprehension." See, also, the statement below of the Rev. Dr. Hallock.

This was the testimony also of Chairman Dow, of the New York Niagara Reservation, before the Committee on Rivers and Harbors (Report of hearings, p. 170):

"Mr. LAWRENCE. Did I not understand you to say that you could not observe any diminution?"

"Mr. DOW. I can not define it by the eye.

"Mr. LAWRENCE. How could you detect it?"

"Mr. DOW. This report would show the difference.

"Mr. LAWRENCE. As a scenic spectacle, what has been the effect?"

"Mr. DOW. Very little.

"Mr. LAWRENCE. So that if there has been any marring of the scenic effect, it has been, as Mr. McFarland says, due to the erection of structures?"

"Mr. DOW. You can not detect it by sound either, can you?"

"Mr. DOW. No, sir. It is the fear of the future development that brings us here—what may be done. We are looking after this tremendous diversion."

From this it appears that after 131,000 horsepower has been taken from the American side, the scenic effect is not visible even to the chairman of the New York Niagara Reservation. This impressive fact becomes especially important in the consideration of the probable effect upon the Horseshoe Falls, over which, as Mr. Dow testified, there is a flow which in volume is nine times greater than that of the American Falls. It has been and is generally recognized that the draft on the Canadian side is so far below the division of the river at Goat Island that the draft proposed on the Canadian side would not sensibly affect the American Falls.

This was the basis of my oral argument, addressed to the Secretary of War on November 20, that—

"This leads me to the conclusion, and I hope you may be led to the conclusion from an observation of the conditions, that it is practically demonstrated that 131,000 horsepower produces no appreciable diminution of the American Falls; and inferentially, that 350,000 horsepower taken from the Canadian Falls, which is from six to ten times the capacity of the American Falls, and which draft, as stated by Prof. Clarke this morning, would not affect the American Falls—I say that the inference which you are permitted to draw, and I believe you will draw, is that the withdrawal of 350,000 horsepower would not affect the Canadian Falls any more than the withdrawal of 131,000 horsepower has affected the American Falls, and which is not appreciable."

3. Mr. McFarland permits himself to indulge in the following insinuation, which is unworthy, and in its necessary implication is absolutely false. He says:

"It is reported that they are ready to deceive the authorities, for one of their engineers unwittingly disclosed the fact last July that preparations had been made to bring in 40,000 horsepower and to expend it or waste it through a water rheostat, in order that they might claim and show by instrument that they are actually transmitting that enormous amount of power."

The reference here is to the Canadian Niagara Power Co., which I represent. I appeal to the personal experience of the Secretary of War, or his engineer, Capt. Kutz, and of the American members of the International Waterways Commission whether the conduct and bearing of the Canadian Niagara Power Co. and its officers have not been such as absolutely to refute the suggestion that it has been "ready to deceive the authorities," even though it were silly enough to wish so to do. All of its works and records have been thrown open fully and cheerfully to all of the authorities. It would have been futile, as it would have been base, for the company to make any false pretense that it was otherwise disposing of an amount of power that it was carrying only to waste in a water rheostat. Any such false pretense could not have survived inspection for five minutes.

However, it is true, and it was perfectly legitimate, that upon the introduction of the Burton bill it was considered whether, in order to demonstrate the actual producing and carrying capacity of its Canadian works and conduit, as actually installed, and not to deceive, this company should not carry to the American side, not 40,000 horsepower, but 16,000 horsepower additional to the 16,000 stated by me at the July hearing.

When, Mr. Secretary, at the July hearing you asked me how much power we were carrying to the American side, I answered 16,000 horsepower. I did not say 32,000 horsepower or 40,000 horsepower. That was the first time the question was raised. The condition was necessarily obvious to the authorities; and how could we attempt to deceive the authorities? The project of transmitting 32,000 horsepower was considered, although because of delays in the completion of its new transmission line (now in operation) it was not then prepared usefully to employ the power. This being so, the actual capacity of the generators and conduits as then installed could have been demonstrated practically only by carrying the power into a water rheostat, for no other disposition would then have been practicable. There was no secrecy about this proceeding, and the prominent location of the buildings would make any such preparations a matter of common knowledge as well as the obvious intent. The facts were always accessible to every one, including Mr. McFarland, and there would have been no necessity for misstatement, either by the company or by Mr. McFarland, either as to figures or as to motives. But the idea never advanced beyond preparation. It is not strange that the distortion of such a perfectly proper proceeding should be introduced by the words, "It is reported that."

4. Mr. McFarland states that at the hearing at Niagara Falls on July 12 all of the Canadian power companies "agreed on one point, which was that the American public was very foolish in interfering with their beneficent desires to produce power at its expense."

I appeal to the record, as well as to the memory of the Secretary, for the refutation of this statement, certainly so far as I am concerned.

Upon that occasion I began my remarks by stating that I believed, and should give my reasons for believing, that the impairment of Niagara would not be so serious as anticipated by Mr. McFarland; and that if it were to be as serious as anticipated by him I should be with him entirely. (Record, p. 21.)

And now I repeat as firmly and comprehensively as I can that I have nothing but respect for the sincere men and women who by appeals, sometimes as incendiary and erroneous as those of Mr. McFarland and sometimes more temperate but not founded on investigation, have been stirred to anxiety lest the greatest natural wonder of northeastern America is to be destroyed or impaired. This anxiety is praiseworthy, and, did I believe the peril were real, I should stand with those who feel and express this anxiety. If I believed that the pioneer companies I represent would have produced any such result, I would cheerfully forego every penny of possible profit rather than further the enterprise. But I do not so believe, nor after their exhaustive investigations did Judge Burton or his committee so believe, for otherwise they would not have reported the bill which invests you with your discretionary powers up to the limit fixed by the law under which we now are proceeding.

The question is not, as suggested by Mr. McFarland, one as to the folly of the American people, but is one of fact—"Will or will not the Falls of Niagara be affected appreciably by the diversion or the transmission of the waters to the extent recommended by the American members of the International Waterways Commission?" This is the question which to the extent of 350,000 horsepower from the Canadian Falls Congress decided to leave open for determination by you, and it is the question upon which you have chosen to take capable and professional advice from your captain of engineers and the American commissioners. It is the question also concerning which the advice of these commissioners as to the aggregate quantities that may be withdrawn is the basis of our appearance before you to-day.

It is an insult not only to the companies whose position he belies, but also to yourself, that Mr. McFarland should have issued the misstatements of which he has been guilty. He has advised the American people that—

"Resolutions and petitions have little force, but a flood of personal letters will be effective. This flood should begin to drop in upon Secretary Taft at once and continue until November 15."¹

A "flood of personal letters," induced by such a cloud-compelling appeal, can have little weight with the Secretary, not even though the flood were to equal "the combined outflow at their mouths of the Susquehanna, Potomac, Hudson, Delaware, and James Rivers." This is a case in which apparently Mr. McFarland has proceeded upon the second line of the Lincolnian canon, that you "may fool all of the people some of the time."

Disregarding the statutory regulation of the Niagara Falls Power Co., which at its own suggestion limited its rights to 200,000 horsepower, Mr. McFarland states that the power-developing companies were perfectly satisfied to have all the water they wanted for nothing from the State of New York—and this in the face also of the fact that, as has been decided by the courts, the power companies upon the American side, being the riparian owners, received from the State of New York no right in Niagara waters to which they were not justly entitled by virtue of their riparian rights. Neither the State of New York nor the United States were the owners of the running waters as against the riparian owners (*Niagara Falls v. Smith*, 70 App. Div., 543; 175 N. Y., 469; see also *Sweet v. Syracuse*, 129 N. Y., 316-335; *Niagara County, etc., Co. v. College Heights Co.*, 111 App. Div., 770.)

5. Mr. McFarland states that—

"Not content with getting free water from the United States² to produce profit-bearing power, the Niagara Falls power companies have introduced considerable water into their stock, it is said, which is free to those inside, but expensive to the public."

This statement can refer to only two companies, the Schoelkopf company, which has a stock of only \$500,000, of which no part has ever been sold to the public, and the Niagara Falls Power Co., which has a capital stock of about \$4,000,000, which has never sold above 80 cents on the dollar, and which in the sixteenth year of its issue sells for only 50 cents on the dollar, although in the opinion of the company it represents an investment fully equal to the par amount of the stock.

Mr. McFarland refers to the greed of these companies. The extent of that greed may be indicated by the fact stated by me at the July hearing, that for 15 years the Niagara Falls Power Co. has been contented to continue with a cash investment of over \$20,000,000, receiving only ordinary interest upon the

¹ In his third emergency call, dated Nov. 19, Mr. McFarland reproduces his metaphor. A literal response will inundate the war office until it becomes a bureau of rivers and harbors! He says:

"This second postponement gives further opportunity to strengthen the Niagara flood of protest and appeal which is being turned toward the one man in America who can halt the commercial assault upon our greatest scenic glory."

² This is an error. No company has yet got free water from the United States. Under the law (see authorities above recited), as against the Niagara Falls Power Co. and the Schoelkopf company, riparian owners, neither the United States nor the State of New York owned the water of the river. The State of New York did own the lands under water, which it sold to these upland owners upon the same public terms as to any and all other owners of uplands. The same critics who now assert that the State of New York, which without aid from the United States has paid out millions to preserve the Falls, is without jurisdiction to license power companies, in the same breath condemn the riparian companies for making no payment to the State. One answer is that, unlike the Province of Ontario, the State of New York neither sold or leased any upland to these companies whose canals and tunnels were entirely on their own riparian uplands outside of the State reservation.

cash investment represented by its bonds, and without a dollar of dividend upon its very moderate stock, in which alone could be found any opportunity for real profit. A corporation whose activities and energies are directed to, and satisfied by, the return of ordinary interest, can not justly be accused of greed.

6. Mr. McFarland refers to a newspaper publication of a plan of merger of the four power companies of Niagara Falls, so as to create a monopoly, and asks: "Should the United States protect this potential monopoly?"

The suggestion of an intended monopoly is absolutely untrue in fact. Neither the Niagara Falls Power Co. nor its subsidiary, the Canadian Niagara Co., has any present intention of entering into a combination with any company. Against any monopoly, though intended, sufficient protection would be afforded by the provisions of each of their charters.

7. Mr. McFarland indiscriminately assails all of the power companies, irrespective of the fact upon which I dwelt at the July hearing—that the two pioneer companies, the Niagara Falls Power Co. and the Schoelkopf company, were absolutely immune against any charge that their operations would or could appreciably diminish the volume of Niagara Falls.

This fact was the subject of examination and final report by the committee of the New York Constitutional Convention of 1894; the report, upon page 11, stating—

"Two of them" (that is, the Niagara Falls Power Co. and the Schoelkopf company) "have expended large sums of money, and are now operating their respective plants, and the amount of water which they take will not do any appreciable injury to the Falls."

At the July hearing, in answer to my question as to his view of the effect of the diversion by the Niagara Falls Power Co., Gen. Ernst replied:

"If you were the only persons concerned, you would probably never have heard all this agitation."

Upon this impressive recognition of our innocence of the charge of injurious assault upon Niagara Falls, I am content to rest.

The report of the engineer, 1910, states that there has been no injury whatever to the American Falls; and that of the injury to the Canadian Falls only an unknown part is due to diversion, the larger part being due to natural causes, the erosion of the crest.

THE COMPARATIVE COST OF NIAGARA POWER.

The Niagara Falls Power Co., this pioneer in the development and establishment of great electrical central power houses and lines of transmission, has conferred an inestimable benefit on mankind, and in an especial degree upon the Niagara frontier, to which it is now delivering more than 100,000 horsepower at prices which, though misrepresented and ridiculed by Mr. McFarland, are readily accepted by hundreds of users, and this without compulsion; for if the Niagara power were not more to their advantage than steam power developed from coal, they would use steam power.

The Niagara Falls Power Co. has published its schedule for standard 10-hour meter power at a rate which offers a maximum use of 100 horsepower and an average use of 75 horsepower for a month of 250 hours, at an aggregate price of \$144.17. This compares with the following reported charges in six important northern cities:

Boston.....	\$937.50
Philadelphia.....	839.25
New York.....	699.37
Chicago.....	629.43
Cleveland.....	559.50
Rochester.....	419.62
Niagara Falls.....	144.17

In the face of such figures, who can doubt the beneficent effect of the operations of the Niagara Falls Power Co. furnishing power at not more than one-fourth of the cost in New York, Chicago, or Cleveland, and at less than one-fifth of the cost in either Boston or Philadelphia?

Mr. McFarland's statement as to the cost of the public lighting in Buffalo, misleading as it is, has nothing to do with the case. Neither the Niagara Falls Power Co. nor its ally, the Cataract Power & Conduit Co., has any relation to or control over the public lighting in Buffalo. They merely sell and deliver electric current to the lighting company, the same as to any other customer over

whom they have no more control than the paper seller has over the imaginations which Mr. McFarland indiscriminately impresses upon his voluminous printed output.

In great numbers, our customers have come to Niagara Falls, which at the beginning of our work was a country village with comparatively few industries until now it has become a prosperous city, the ninth in the State, in the volume of industrial products approaching \$20,000,000 per annum,¹ and this without appreciable diminution in the apparent volume of Niagara River, and with a steady increase in the number of visitors, not only to the Falls but to our power houses as well. The moderate admission fees charged to such visitors are used for the benefit of employees.

THE MARVELOUS ACHIEVEMENT OF THE NIAGARA FALLS POWER CO.

In the year 1899 our continuing achievement was well described by Theodore Roosevelt, then governor of New York, who completed his inspection of our works by writing over his subscription in our Visitors' Book, "A marvel indeed."

How great is the marvel and how splendid the achievement has been eloquently expounded by that inspired seer of both present and future, Mr. H. G. Wells, in the following wonderful words, written without previous knowledge of or inspiration from our companies, and published in the Harper's Weekly of July 21, 1906:

[H. G. Wells on the Niagara Falls Power Co.]

"The dynamos and turbines of the Niagara Falls Power Co., for example, impressed me far more profoundly than the Cave of the Winds; are, indeed, to my mind, greater and more beautiful than that accidental eddying of air beside a downpour. They are well made visible, thought translated into easy and commanding things. They are clean, noiseless, and starkly powerful. All the clatter and tumult of the early age of machinery is past and gone here; there is no smoke, no coal grit, no dirt at all. The wheel pit into which one descends has an almost cloistered quiet about its softly humming turbines. These are altogether noble masses of machinery, huge black slumbering monsters, great sleeping tops that engender irresistible forces in their sleep. They sprang, armed like Minerva, from serene and speculative, foreseeing, and endeavoring brains. First was the word and then these powers. A man goes to and fro quietly in the long clean hall of the dynamos. There is no clangor, no racket. Yet the outer rim of the big generators is spinning at the pace of a hundred thousand miles an hour; the dazzling clean switchboard, with its little handles and levers, is the seat of empire over more power than the strength of a million disciplined, unquestioning men. All these great things are as silent, as wonderfully made, as the heart in a living body, and stouter and stronger than that. * * *

"When I thought that these two huge wheel pits of this company are themselves but a little intimation of what can be done in this way, what will be done in this way, my imagination towered above me. I fell into a daydream of the coming power of men, and how that power may be used by them. * * *

"For surely the greatness of life is still to come; it is not in such accidents as mountains or the sea. I have seen the splendor of the mountains, sunrise and sunset among them, and the waste immensity of sky and sea. I am not blind, because I can see beyond these glories. To me no other thing is credible than that all the natural beauty in the world is only so much material for the imagination and the mind, so many hints and suggestions for art and creation. Whatever is, is but the lure and symbol toward what can be willed and done. Man lives to make—in the end he must make, for there will be nothing left for him to do.

"And the world he will make—after a thousand years or so.

"I, at least, can forgive the loss of all the accidental, unmeaning beauty that is going for the sake of the beauty of fine order and intention that will come. I believe—passionately, as a doubting lover believes in his mistress—in the future of mankind. And so to me it seems altogether well that all the froth

¹ Bulletin 57 of the Census of Manufactures for 1905, shows the following increases in the value of manufactured output from 1900 to 1905:

Buffalo, from \$126,150,839 to \$172,115,101; Niagara Falls, from \$8,540,184 to \$16,915,786; Lockport, from \$5,352,660 to \$5,807,908; Rochester, from \$59,668,959 to \$82,747,370; Syracuse, from \$26,546,297 to \$34,823,751.

and hurry of Niagara at last, all of it, dying into hungry canals of intake, should rise again in light and power, in ordered and equipped and proved and beautiful humanity, in cities and palaces and the emancipated souls and hearts of men * * *."

Mr. Wells is not alone in his belief.

Prof. Walter Frewen Lord, of Durham College and of the University of Cambridge, has expressed himself as follows, as appears in the Toronto Mail and Empire, upon December 4, 1906:

"I went over the Niagara power plant at the Falls the other day. It was a revelation to me. The cataract was wonderful, of course, but it struck me that the work of man in harnessing it was far more wonderful. It seemed to me the greatest thing that was ever attempted—the greatest thing on earth."

THE TESTIMONY OF THE REV. J. N. HALLOCK, D. D.

In a recent issue of the Christian Work and Evangelist, Dr. Hallock says:

"A new Niagara, 'harnessed' but not hushed, with its beauty unmarred and its torrential fury undiminished, now greets the astonished eyes of pilgrims to this picturesque region. The hand of the engineer has left the mighty cataract untouched, while adding to the attractiveness of nature's greatest wonder. Niagara is practically just as it was 10 or 20 years ago, impressive in its combination of picturesque beauty and awe-inspiring grandeur. The rapids and whirlpool still excite the admiring wonderment of men. But there is much more than the Falls and the scenic beauties of the river to interest and charm those who visit this New World Mecca.

"I am not sure but that the popular apprehension regarding the possible destruction of the Falls by the power companies has increased the tide of travel in this direction this summer. Thousands of persons no doubt actually believed they were gazing upon the cataract for the last time. Natural Niagara is still a spectacle of beauty and power; industrial Niagara is a wonderful demonstration of man's mastery over the forces of nature. The works of the engineer which use the waters of Niagara River to drive the wheels of industry are even more spectacular than the cataract itself. * * *

"After rushing the turbine wheels beneath these power houses, developing a total of 110,000 horsepower, the water passes through a tunnel a mile long under the city of Niagara Falls, and empties into the lower channel under the first steel bridge. Over 1,000 men were engaged continuously for more than three years in the construction of this tunnel, which called for the removal of more than 300,000 tons of rock and the use of more than 16,000,000 bricks for lining.

"As these power houses represent the first attempts to 'harness' Niagara upon a big scale and embody the latest achievements of electrical engineering, they are visited yearly by thousands and form one of the attractions of the Niagara regions.¹

"It is in no small measure due to the energy, courage, and perseverance of the directors of the Niagara Falls Power Co. and their associate engineers that Niagara Falls owes its present importance as an industrial center.

"Upon October 4, 1890, ground was broken at Niagara Falls, N. Y., for the initial power installation of the Niagara Falls Power Co. The trial development was for 15,000 horsepower. At that time, three small towns, with a combined population of less than 10,000, were contained within the limits of what is now the city of Niagara Falls. The assessed valuation of all three towns was about \$7,000,000. Five years later the first electrical power from the initial installation was delivered commercially to the Pittsburgh Reduction Co. for the manufacture of aluminum. To-day, 16 years after the breaking of ground for the tunnel, the aggregate amount of power developed by the Niagara Falls Power Co. and its allied interest, the Canadian Niagara Power Co., is about 160,000 horsepower, with additional capacity in course of construction amounting to 60,000 horsepower. Niagara Falls is now a city of almost 30,000 inhabitants, with an assessed valuation amounting to over

¹ The visitors have numbered many thousands, and have included the wise and the great of the earth. William McKinley's last signature, an hour before the fatal shot at Buffalo, was inscribed in our visitors' book. As already observed, Theodore Roosevelt wrote his name there in 1899. Li Hung Chang and Lord Kelvin, foremost in their widely separated spheres, have been followed by vast processions through these power houses and have left their tribute of admiration also upon our books.

\$20,000,000. Such in brief are some of the results accomplished by the men and engineers who harnessed Niagara Falls. Less than 4 per cent of the total flow of water over Niagara Falls has been diverted by these companies, and its beauty and grandeur are unimpaired."

THE NIAGARA FALLS POWER CO. NOT A VANDAL.

We readily accept the characteristically fine statement of President Roosevelt that Niagara Falls should be preserved "in all their beauty and majesty," and we rest confidently on the proposition already announced by us and elaborated at the July hearing that no use of Niagara waters accomplished or proposed by either or both of our two pioneer companies who have spent hundreds of thousands of dollars to secure the most appropriate architectural effects would diminish either the beauty or the majesty of Niagara. If there is to be any such injury, it will be because of the proceedings of later comers, whose plans originated and have developed subsequently to ours. For their actions, if injurious, our two power companies should not suffer. Those later comers undoubtedly will be able to speak for themselves. They can not speak or act to the detriment of our prior rights and the innocuous character of our separate and independent exercise of those prior rights. They have filed briefs apparently in attempted diminution of our rights, although we had not in any way attacked them. We are forced now to an assertion not only of our rights but of our priority of right even if necessary to the entire subordination and possible exclusion of any beneficial enjoyment by them.

Recognition of the Niagara Falls Power Co. as the pioneer in electrical development has been made by many, but by no one more graciously or acceptably than by Gen. Greene, the representative of the Ontario company, in the following language:

"Mr. Stetson claims that his company is the pioneer company in the development of Niagara power. We cheerfully concede this claim. By the brains and the courage of Mr. Stetson and his associates, at a time 10 years ago when the electrical science was far less developed than at present, and the hazard of the enterprises correspondingly greater, the utilization of so much of the power of Niagara as can be taken without in any way detracting from its sphere and glory as a scenic spectacle, was made possible; and I would like to add, if I may, that Mr. Stetson and his friends, as well as those associated with me in the Ontario Power Co., are the true friends of Niagara, and can be more safely trusted to preserve its beauty than the noisy advocates who occupied so much of your time yesterday with misleading statements."

In the same interest, Mr. Cravath followed Gen. Greene, saying:

"While Mr. Stetson has been a pioneer in the generation of power, we have been the pioneer in the long-distance transmission of this power in the State of New York."

Mr. Secretary, this question which is now before you, as I apprehend it, concerning the distribution of the amounts of power to be taken generally by the different companies upon the report of your engineer as to the aggregate amount of power to be taken by companies from the Canadian side and transmitted to the United States, is different from the question of how much power can be taken in the aggregate from the Niagara River on both sides. That is the question that I supposed was discussed and fully discussed before you last July at Niagara, when you had the great advantage of taking the evidence of your own senses as to what was occurring to the river as a whole. But unless I misapprehend the scope and effect of the arguments this morning, and the scope and effect of the arguments and appeals that Mr. McFarland has addressed to the public, that question as to the effect upon the Niagara River as a whole, which we supposed was argued and settled, so far as argument was concerned, last July, now has been brought up again, and thus we are compelled to turn our attention again to that question, as to which I stated at the close of the argument last July we readily acquiesced in the statement and the wisdom of the statement of the Secretary of War that those matters should be referred by him to his master—that is, to the American members of the International Waterways Commission—and to the Board of Engineers of the Army for report; and we have not come here with any idea of contesting that report upon the main subject. But we are forced to take your time for a few minutes concerning that branch of the question, because of the voluminous, and I might say, in some respects, venomous, attacks that have been made upon our positions.

Out of the volumes of speech that were uttered this morning one stood out conspicuous for its knowledge of the facts, and I shall esteem it always a privilege to have heard Prof. Clarke in his address. Such a speech as that, to whatever conclusion it leads, is a speech that fair-minded men should welcome, and concerning which fair discussion can be had; and with the highest respect to the emotions of some of the other gentlemen, I must respectfully say that it is the only speech that I have heard since I have been here that requires consideration.

Last July I took considerable time, as, before this entire debate is closed I shall ask to take some time again, in asking your honor to discriminate between those who are using Niagara power. The power that one man takes from the Niagara River, an amount of power which is absolutely inappreciable in its effects upon the river, does not justly condemn that man or his investment to denunciation or destruction because of that which may be done by others who come after. I have insisted upon that before, and I shall insist upon it again with all the force that I can command. I wish gratefully to acknowledge the contribution to that feature of Prof. Clarke, whom I never saw before, and of whom I never heard before except for his high official position, and whose statement in that particular in recognition of the Niagara Falls Power Co. was as entirely impartial as I believe it was effective.

Prof. Clarke uttered his sentiments with reference to nature, with reference to natural objects, with reference to this particular natural object, in some respects the greatest of all natural objects in the world, and certainly the greatest natural object in northeastern America, and he expressed his interest in it and his love for it. He expressed his desire to perpetuate and to protect it, even, if left to himself, to the extent of going to the very point of prohibiting the use of any water of the Niagara River for industrial purposes; and he seemed to suggest what Gen. Ernst intelligently and acutely observed in his report a year ago, that the characteristic quality of Niagara which impresses the human mind is not in its surrounding scenery; not in the general height of the Falls, but rather in its volume. When Mr. James C. Carter made his great address at the time of the opening of our reservation, for New Yorkers are not all indifferent to the value of the Falls; no other people have submitted to taxation for the preservation of that beauty as they have; we have spent millions in doing it—at the opening of the park resulting from those expenditures, Mr. Carter made the address in which he attempted to define what it was that gratified the human mind in the contemplation of this sublime cataract, and finally he came to the point that it is "the sense of power." That is the quality of the cataract that affects the human mind. It is not beauty alone; it is not height alone; but it is the volume and velocity plus the drop. I do not believe that before these latter days any man ever went there, whether or not he had mechanical ideas, without saying, "What could that do for the use of mankind?"

I will go further. Prof. Clarke justly professes his love for Niagara Falls. Mr. McFarland has written much on the subject, but in what he has written he has seemed to me to express not sentiment, but sentimentality. I have not discovered a thought underlying anything he has written that stirs the heart with the impulse of recognition of beauty or of power as to the words of Mr. Carter, or the acute definition of Gen. Ernst.

I will go further. These gentlemen speak of Niagara and its beauty. I defy anyone in this room or elsewhere to compare with me in my love for the beauty of Niagara. I have studied it for more than 20 years from every point. I know it; I love it. I have listened to its sound. You think you have. You have never heard it. Prof. Lupton, of Leeds, England, asked me one day, "Has Niagara a sound?" I said, "Yes, of course; a mighty sound." He said, "When I went away and looked at my notebook I could not find that I had entered that it had a sound." I said, "I will listen for it." I went there again and listened, and then inquired of a musician. He answered, "Yes, it has a sound, so profound that it has been questioned what would be the length of the organ pipe to produce it."

It is not the thunder that you hear. It is not the thunder of the cataract that Mr. McFarland has pointed out to you. It is a deep diapason, that goes down away under the bubble and rush of the waters, which is the profound note of Niagara. Such is the sound that will control the disposition of the present question as against the bubble and froth and foam, not of those of the great American people who understand the question, but of those who are engaged in the kind of agitation that amounts to little more than the blowing of soap bubbles. Do they

love Niagara? I love it not less than they. I have followed its sound, and I have followed its beauty. I have put my life into it. When Prof. Clarke says that he would be glad to see removed all buildings near the Falls, I appreciate his sentiment, and I go even further than he. I would be willing to give a tenth of all I have in the world, and more, to restore all along Niagara River, from Buffalo to Lewiston the glorious forests that once stood there, as now they stand on Goat Island; on either side of the stream, to restore it in every aspect, in every surrounding, in scenery, in all that will constitute the elements that gratify the lover of landscapes and the glory of nature—following, as many times I have followed, the course of the river from Chippewa Creek to Lewiston, the counterpart of Cole's Voyage of Life; starting in the placid waters of the upper Niagara, with childhood's innocence of danger; rushing through the turbulent rapids, and plunging over the cataract, of youth and early manhood; coursing through the lower rapids in the vigor of full maturity; and, at last, coming out into life's placid finish as the serene river enters the fond and shining embrace of Lake Ontario.

I defy any of these gentlemen to love Niagara River more than I. The love of these who have spoken, in the words of the poet, as compared to mine, "is as moonlight to the sunshine, and as water is to wine"; I repudiate and scorn the idea that any advertising agency or propaganda, however powerful, has a monopoly of the love or of the proclamation of love of Niagara and Niagara Falls.

I maintain, then, that I am entitled to speak as one who knows and loves, and who would respect and perpetuate Niagara Falls in all its glory and in all its sublimity. Is that a mere statement? Is that contested by my acts? Am not I one of these people who would turn that power to commercial use? Am not I one of these people who are resisting the efforts of these others under a perversion of the commerce clause of the United States Constitution to turn the Federal Government into an agency to destroy commercial development?¹ Yes; I am; I am one of those. I think that, within reasonable bounds, to this extent that it is better for mankind the waters of Niagara River should be usefully employed, for we can not now restore the primeval conditions, which I would prefer. I go beyond Prof. Clarke and I say that now, if it were possible to sweep away the villages on both banks, to sweep away all structures from Buffalo to Lewiston, and to reestablish the primeval forests, it would be a sacrifice to permit mere industry to enter such a scene of beauty and sublime power. But the era in which that restoration is possible has passed away.

We are dealing with the era of 1878, when, under the influence of Lord Dufferin, Governor General of Canada, and Lucius Robinson, governor of the State of New York, an agreement was reached that upon each side of the river there should be a park reservation created and maintained severally by the two governments. That movement proceeded to fulfilment, so that in 1886, through the results of taxation, there had been developed and established on the American side that park which now is a reservation maintained, at their own expense, by the people of the State of New York.

On the other side is a park which, as I understand it, was expressly declared should not be made a charge upon the people of the Province of Ontario. So the commissioners of the Queen Victoria Niagara Falls Park, for the creation, preservation, and maintenance of that park, have been obliged to seek revenues from the park itself. Thus, as suggested by Mr. Ely, on the two sides of the river you are dealing with two different questions. On the Canadian side you are dealing almost entirely with the Canadian or Provincial Government.

The commissions that then sat on the two sides of the river undertook in the exercise of their discretion to determine how much property it was desirable should be taken for the preservation of the Falls.

Upon the American side the State of New York had sold the American Falls and Goat Island, under a soldiers' grant of 1812, which came into the possession of your predecessor in that chair, Gen. Peter B. Porter. The American Falls, having been sold to Gen. Porter indirectly and continuing in his family ever since, had to be bought back by the State of New York at a price of over \$600,000, including Goat Island. There had been no such alienation by the Province of Ontario, as far as I understand, though there is a gentleman here who can answer as to that much better than I can.

¹ The principal declared purpose of the Buzton bill is to preserve navigation in the Niagara River where it is impossible of navigation. The only basis in the Constitution of Federal intervention is the commerce clause. This now is invoked to counteract what is termed "commercialism." Thus the commerce clause is turned against itself.

At all events, on each side of the river the commission exercised its jurisdiction and judgment as to how much of the territory surrounding Niagara Falls was necessary for the preservation of that object. They made their decision, they made purchases, and they established their two reservations.

The several governments then passed acts permitting the establishment of power companies. On the American side the act was drafted by my eloquent and esteemed friend Mr. Ely, and therefore he and his associates, all residents of Niagara Falls and largely riparian owners, were constituted a corporation at Niagara, with power to take the waters of Niagara for purposes specified in the New York statute of 1886. That is the origin of the Niagara Falls Power Co., of which I am now speaking, and of which I am a representative, and which has been known as the pioneer in the electrical works. On that particular point I will presently have something further to say.

Under those conditions that company got no property from the State of New York. That company or its originators owned the water front of the Niagara River for 2 miles next above the highest point to which the commissioners deemed it desirable to carry the reservation for the protection of the Falls. Certainly, then, there was no thought of encroaching upon Niagara. That was when the question was fresh. It was the agreement of the State, it was the understanding of the people, and several times it has since been decided that that right of the riparian owner was such as to entitle the corporations thus constituted to draw the water for the purposes of these manufactures, notwithstanding it was a boundary stream and notwithstanding it was a navigable stream; and here I may refer to the decision of Judge Childs in the case of *Smith v. Hydraulic Co.* (70 App. Div., 543), which Mr. Romer knows so well, and which was affirmed by our court of appeals (175 N. Y., 469).

That was the position upon our side of the water—a corporation formed by these gentlemen living at Niagara, in advance of the cooperation or participation of any of those (excepting Mr. W. B. Rankine) now or for many years interested in the Niagara Falls Power Co.

On the Canadian side of the river a similar act was passed; and Mr. Woodruff's statement this morning that all these Canadian companies had been established because their promoters were unable to obtain the power on the side of the United States, was made in violent error as to the facts, certainly so far as concerns the Canadian Niagara Co.

The Canadian concessions began as early as the American; and they began for the reason I have pointed out, that the Canadian commissioners were desirous of obtaining from the use of the park itself, Queen Victoria Niagara Falls Park, the means with which to sustain the park. And thereupon a number of Canadian gentlemen and Englishmen joined under the Canadian act in forming the association which possessed the Canadian right in the park. That had been done entirely anterior to the incursion of the so-called vandals, Mr. D. O. Mills, Mr. J. Pierpont Morgan, Mr. Morris K. Jesup, myself, and others, who now are supposed to be lacking in interest in beauty and art. Before our incursion all this which I have described had been accomplished by law, and these properties were on the market. Somebody was going to develop them; and in 1887 or 1888 began the discussions which, in 1890, resulted in the present group of capitalists acquiring the Niagara Falls Power Co. They never asked anything of the New York Park Commissioners. They had no occasion to ask anything of them. They were not dealing with any property under control of the park commissioners. They were dealing with property entirely above and outside the park.

This proceeding on the American side ran on for two years, when I was approached personally by Col. Albert D. Shaw, formerly a Member of Congress, formerly counsel at Manchester, and formerly consul at Toronto, where he became interested in Canada. He said, "We are going on to build on the Canadian side unless you will buy our right." What did we do? We bought the charter after it had been offered to us. We did not go and seek it. Mr. Woodruff is entirely mistaken in supposing otherwise. We bought that charter, and then what did we do? We let it lie dormant for nine years. If we had not thus purchased, you would have had a Canadian development twice as large years ago. That shows how little eager or pressing we were for the purpose of interfering with the flow of the Niagara.

We come now to the year 1892. On our side we had sunk our shaft in October, 1890. By that date we had made engagements involving millions of money, when that gentleman, who has gone to his rest, and for whom I have a high respect for his many services to the public, and at one time we were

close friends, Mr. Andrew H. Green, who was a watchdog, if there ever was a watchdog, made the seventh annual report for the Niagara Falls Park Commission in which he made statements concerning our proposed work, which I will submit with my remarks.¹ That is the first report that was made about

¹ From Seventh Annual Report (pp. 11-12), Jan. 29, 1891:

"The water power of the river is, however, soon to be made use of in a highly remarkable and original way, under the direction of the Niagara Falls Power Co. This company is composed of prominent business men at Niagara Falls, and from the circular which they have recently issued the following information is derived:

"Beginning at the water level below the Falls a tunnel is to be constructed 29 feet in height by 18 feet in width. It will extend through the solid rock underneath the village to the upper river at a point about 1 mile above the Falls. From this point the tunnel is to continue parallel with the shore of the river $1\frac{1}{2}$ miles, at an average depth of 160 feet below ground, and about 400 feet distant from the navigable waters of the river, with which it is to be connected by means of surface conduits or canals, through which the water from the river is to enter and be drawn through the shafts and wheel pits in to the great tunnel below. The water will fall upon turbine wheels in the pits, and the power developed thereby will be brought to the surface and delivered to mills or factories, or be transmitted by cable, pneumatic tube, or electricity to other points. The company has purchased about 1,300 acres of land near the reservation. This land will be used for mill sites and dwellings for operatives.

"By the act of incorporation the power granted to the company by the State 'shall not in any sense be construed as permission to cross, intersect, or infringe upon any part of the lands of the State reservation at Niagara.'

"A communication from the State engineer and surveyor concerning the effect upon the American Fall of the diversion of a large amount of water of the river into the proposed tunnel, is appended to this report."

The State engineer's report was as follows:

[Letter from John Bogart, State Engineer and Surveyor, as to the diversion of water near Niagara Falls. State of New York.]

OFFICE OF THE STATE ENGINEER AND SURVEYOR,
Albany, N. Y., December 1, 1890.

HON. ANDREW H. GREEN,

President of the Commissioners of the State Reservation at Niagara.

DEAR SIR: In accordance with your request I have considered the question of the effect upon the American Falls of the diversion of the water which may be taken by the tunnel now being constructed at Niagara. I have visited the Falls and the point where it is proposed to take the water from the river by a canal, this water afterwards passing through wheel pits to the tunnel referred to. The entrance to the river from this canal is in the navigable part of the river about 1.36 miles above the Falls and 1 mile above the head of Goat Island. It is about half a mile above the entrance to the present hydraulic canal and entirely above the rapids. In my opinion the water taken into a canal at that point will not affect the American Falls specially, because the regular regimen of the river will become reestablished before reaching the head of Goat Island where the currents to the American and to the Horseshoe Falls divide. The effect of the water flowing into this canal will therefore be distributed over the whole river, and will not at all be confined to one section of it.

What this effect will be depends upon the relation of the volume of water taken into this canal to the volume of water flowing in the river.

The amount of flow over the falls has been variously estimated in past years, but in 1868 the volume was measured by the Corps of Engineers of the United States Army in connection with the survey of the Great Lakes. The flow thus determined varies from 278,329 cubic feet per second to 280,757 cubic feet per second. It will, I think, be proper to call this 275,000 cubic feet per second, or 16,500,000 cubic feet per minute.

The amount that can be taken by the tunnel now under construction, if developed to its full capacity, may be 10,000 cubic feet per second.

This is 3.64 per cent of the whole flow.

The actual depth of the water at the crest of the Falls can now be accurately observed, except near the sides of the Falls. The depth varies considerably at different points on the crest. A calculation based upon the observed facts gives 6.22 feet (or 6 feet 2 $\frac{1}{2}$ inches) as an approximate mean depth of water a very short distance (less than 10 feet) above the edge or crest of the Falls when the present mean volume of water is passing over; and 6.07 feet (or 6 feet and four-fifths of an inch) as the depth at the same point when the volume shall be reduced by the amount that can be taken by the tunnel referred to.

Therefore, the depth of water along the whole Falls, just above the crest, may be reduced 1 $\frac{1}{2}$ inches by the diversion of water into the tunnel.

From the operation of a well-known hydraulic law the depth of water directly over the crest will be somewhat less, the velocity being greater; but the decrease of depth at that point, by the diversion of the water, would also be less.

It might be suggested that, as the proposed tunnel may divert 3.64 per cent of the total volume of water, the depth at the Falls would be decreased by the same percentage; that is, 3.64 per cent of 6.22 feet, which would give a decrease of 2.7 inches. But, in fact, the decreased volume will give a decreased velocity, and therefore a greater relative depth at the crest. I therefore think that 1 $\frac{1}{2}$ inches is the probable amount of the mean reduction in depth at the Falls to be caused by the tunnel diversion.

In conclusion, it is my opinion that the amount of water that can be taken through this tunnel will not affect the depth of water flowing over the Falls to an extent that will be visible.

Very respectfully,

JOHN BOGART,
State Engineer and Surveyor.

our work and it was published by way not of condemnation but commendation. In the report of that commission for 1890, submitted to the legislature January 29, 1891, you will find it stated that a highly remarkable and original development of power was about to be made by the prominent business men at Niagara Falls. We understood that Mr. Green and his associates considered this to be an interesting and desirable undertaking. We had no word or suggestion of opposition from them or from anyone else until long after we had committed ourselves publicly to our undertaking, beginning work in October, 1890.

The report for 1891 called attention to the diminution of the water in the Niagara River. You will find it in the Eighth Annual Report, 1891, submitted to the legislature January 29, 1892.¹ I shall submit it with my argument. It called attention to the low water in Niagara River, and to the inception and progress of the works, and it left it to the public to infer whether or not those works were the cause of this low water. That shows the inconsequence of mere impressions. That low water, that now we hear so much about, was commented upon in the report for 1891, which was three years before our tunnel was bored through. That goes to show how even most intimate and forcible observers may be misled. The complaint of the effect upon the Niagara River was made three years before our tunnel was bored through, and from personal observation I may say the water then was lower than it is now—and for a series of years it had been lower.

Secretary TAFT. Was there not a company before yours taking out water?

Mr. STETSON. Pardon me. I speak of electrical—

Secretary TAFT. I understand, but with reference to the withdrawal of water, I mean.

Mr. STETSON. There was one prior to ours.

Secretary TAFT. When did that come?

Mr. STETSON. That company began to draw water, I should say, about 1857. Mr. Romer is here and can state the facts better than I can. How many horsepower do you think you were developing when we came, Mr. Romer?

Mr. ROMER. We began in 1853, not in 1857, I think. At that time there was only one flour mill that was taking power, and that ground about 40 barrels of flour—

Mr. STETSON. I mean when we came in 1889, how much do you suppose you were taking?

Mr. ROMER. Possibly 10,000 horsepower.

Secretary TAFT. I did not know but that the report referred to that.

Mr. STETSON. Oh, no; that had been going on for years, that 10,000 horsepower. Mr. McFarland said this morning that you could not take out the fifth of a glass of water without noticeable loss. But I think that you could take out a fifth of a glass out of the Atlantic Ocean and not notice it. Not even Mr. McFarland could have discovered the loss of 10,000 horsepower out of the Niagara River. That was not the question at all.

Now I have led up to what was actually done by those connected with the pioneer electrical development. Here was no assault by those gentlemen, who have been sarcastically called "our grand dukes," upon the rights of the

¹ From Eighth Annual Report, Jan. 29, 1892, p. 89.

According to statements recently made, there has been a noticeable sinking of the water level of Lake Erie. When this condition exists, the Niagara River necessarily becomes shallower, and the volume of water at the Falls diminishes. To the inexperienced eye of the tourist this fact may not be perceptible, but a fact it nevertheless seems to be. The water in the river has during the past year been exceptionally low. In the lower river there has been a fall of several feet, so that it has at times been difficult for the steambot *Maid of the Mist* to effect a landing at the dock near the foot of the Inclined Railway Building.

The Maid of the Mist Association has petitioned the commissioners for permission to extend its dock, in order that landings may be made at any time. There can be no doubt that this extension is necessary with the river at its present level.

The commissioners are unable to state with any accuracy the cause of the low water. But the commissioners deem it advisable to suggest that the legislature scrutinize with great care and even refuse to enact all bills the object of which is the utilization of the water power of the river above the Falls for manufacturing and other purposes. The Falls themselves, being within the limits of the reservation, are no doubt secure from successful attack, but hardly a session passes without the introduction of one or more bills in the interest of companies organized for the purpose of utilizing the water power of the Niagara River, with the sanction of the legislature.

The commissioners do not mean to imply that these undertakings are necessarily without merit; but, without reflection on past action, it is undeniable that if the legislature shall continue to authorize diversions of the water of the river the volume at the Falls will constantly diminish, and the level of the river, both above and below the Falls, necessarily sink.

public at Niagara. On the American side what was done was projected by citizens of Niagara Falls who owned the riparian lands. On the Canadian side the project was authorized by the Government itself, in order to create and maintain the Canadian Park. That is the origin of the two pioneer corporations for which I speak, and which were endeavoring not to injure but to serve the public in a new and vastly important way.

What then did we do? We made an investigation—all of us did—earnestly, to see whether there could be a possible effect upon the Falls by reason of our taking up this first object on the American side, and we reached the conclusion to which I will refer again hereafter, that there would not. But we let the Canadian side rest in order to demonstrate just what our American action might effect, that we might proceed with safety. We intended, then, and always we intended, to preserve the integrity of the Falls in all their sublimity. Well, the laws having been passed, and we having acquired the rights under the laws which we did not originate, we undertook to have what was the best possible way of making the development, which should be consonant and consistent with the splendid features of this great natural object.

I will not detain your honor at length as to that, but will state simply that we went abroad: that we offered prizes throughout Europe amounting to \$30,000; that personally I made a trip over Europe to look at all the methods of power development; that we consulted Lord Kelvin, Prof. William Cawthorne Unwin, Col. Theodore Turrettini, and Prof. Mascart, of Europe, and Dr. Sellers, of this country, and we adopted their recommendations. When Prof. Clarke said this morning that it was our sin that we did not use but one-third of the power we might have from the water taken by us, I would respectfully reply that it is not our sin. If the loss be such, then it is our terrible misfortune. Distinguished professional gentlemen advised us what to do, and we knew of no better or higher authority in the world. We took their advice and followed it; and if we could get back to that date most gladly would we give Prof. Clarke \$500,000 for the formula that would save that other two-thirds that he thinks that we are losing.¹

Last summer, at Niagara Falls, Mr. McFarland made an assault indiscriminately, upon the looks of things, and I asked him if he would come to our plant. He went with me, and as he stood in our powerhouse he could not have the face to stand up against that most beautiful installation that had ever been conceived and say that it was such as justified his remarks. No; he said, "You know you are a lawyer, and you know when you are making an argument you can not weaken it by distinctions"—and so he did not distinguish between us. He just said, indiscriminately, that we were all in that condition.

Now, we have advanced through five years from the beginning. On the 1st of June, 1895, our wheels began to turn, and they have been turning continuously and increasingly from that time to this, until, as your honor has observed, we have brought out from the Niagara Falls Power Co.'s electrical plant the output, in round numbers, of 85,000 horsepower; and in the hydraulic plant, converted into horsepower, we have substantially, in round numbers, 8,000 more, making 91,000 horsepower; and I believe, though I am subject to correction, that Mr. Romer's company is producing thirty or forty thousand.

Mr. ROMER. Forty thousand horsepower.

Mr. STERSON. There you have the result, 131,000 horsepower on the American side, which, as you found this morning, is from an eighth to a ninth of the Canadian side in volume.

That is what is in operation now. It is not a question of what is going to be. It is not a question of whether, when you look in the glass to-day you see you are a day younger and more beautiful than you were yesterday. It is a question of what has been the effect of turmoil and tedium and resistance to assaults for about 16 years. That is the phase that to-day is exhibited and illustrated when you look at what now is the effect of the withdrawal of 131,000 horsepower from the American side, which is one-sixth or one-ninth of the Canadian side.

Now, Mr. Secretary, it has been my great privilege and pleasure to listen to your decisions for many years, and sometimes to hope to influence them. Here is a case in which I can not hope to influence your decision, but there

¹ In 1890 no American manufacturer was willing to tender either a turbine or a dynamo of more than 500 horsepower capacity. We led the way first to 5,000 horsepower, and now to 40,000 horsepower turbines and dynamos. This was an experiment involving coverage and resulting in great benefit to mankind.

The story was told fully in *Cassier's Magazine*, "Niagara Power Number," July, 1895.

has been a mightier advocate than I. That river which, unlike the Niagara flood admitted by Mr. McFarland into some one of these rooms, thunders its cataract over the Falls, spoke to you on the 12th day of July last. You stood in front of it and you looked at it, and if you had ever seen it before I would defy even your acumen to detect a difference in its flow from the time when you first saw it, before there were any mills there at all. I have watched it for 20 years. Our judgment may be biased. That is all right. Charge us with bias; we may be wrong about that. But we insist that our judgment is as good as that of the gentlemen to whom Mr. McFarland has referred when he says "Recent visitors at Niagara Falls report that." Well, we are not "recent visitors at Niagara Falls who report that." We are people who have lived at Niagara Falls. We are the people who have done more in a day to attract attention to Niagara Falls than even the output from Harrisburg. The world has been interested in Niagara Falls as it never was before. The Falls, as Gen. Ernst says, are not conspicuous for their height. The falls in Labrador are higher; the Zambesi Falls in South Africa, and the falls in Norway are higher. Why is it that the people are interested in Niagara Falls? It is because, to use a classic expression, they are "in our midst"; it is because we have invested, and for those who are to come after us we have invested them with human interest, and that I say, with great respect, is quite equal to beauty and to scenic interest. When you have got away from the contrary delusion you realize that what we and others have done has been an addition, a vast addition, to human interest, and I defy you or any man who can speak the language of truth, and keep within the bounds of truth, to say he can detect a difference, visually.

I do not quite understand the report of Gen. Ernst when he says "appreciably affect the Falls." Neither last summer, now, or at any time could I willingly be drawn into any statement which seemed to conflict with Gen. Ernst; but I can not believe that when he says "appreciable" he means appreciated by the eye. When we are talking about scenic grandeur and beauty we refer to the eye only, and referring to that organ, I defy anyone truthfully to say that he can detect the difference between the American Falls as they are to-day, with 131,000 horsepower subtracted, and what they were 30 years ago, when less than 10,000 horsepower was being subtracted.¹

That, then, leads me to the conclusion—and I hope you may be led to the conclusion from an observation of the conditions—that it is practically demonstrated that the development of 131,000 horsepower produces no appreciable diminution of the American Falls, and, inferentially, that 350,000 horsepower taken from the Canadian side, which is from 6 to 10 times the capacity of the American side and which, as stated by Prof. Clarke this morning, would not affect the American side—I say the inference which you are permitted to draw, and which I believe you will draw, is that the withdrawal of 350,000 horsepower would not affect the Canadian Falls more than the 131,000 horsepower has affected the American Falls.

PRIOR AND PREFERENTIAL RIGHT OF CANADIAN NIAGARA CO.

In their report the American commissioners say that Capt. Kutz concludes "that there is no sufficient reason for discrimination between the Canadian companies except their relative ability to command the Canadian market."

In reaching this conclusion Capt. Kutz, as a layman, naturally enough has failed to take into account the consideration to which in equity our Canadian company is entitled as the prior appropriator and licensee of the water. We annex an Appendix A, showing that at all times our prior and superior rights have been recognized by the Queen Victoria Niagara Falls Park Commission, and perforce by each of the other companies now claiming their subordinate rights.

Under the established rules concerning water courses and riparian rights, if by a physical convulsion the waters of the upper Niagara River were to be carried into the American channel so as to leave available for use on the Canadian side only 100,000 horsepower, our company in equity would be entitled to the whole of that power though the two junior lessees were to go dry. Correspondingly, if by the act of law flow of the river available for power transmission to the United States is to be reduced to 160,000 horsepower, then our juniors should first suffer reduction for this purpose to 39,000 horsepower,

¹ This also is the view of Chairman Dow and of Dr. Hallock, quoted at length above.

for they are not entitled to consideration to the detriment of our prior right to 121,000 horsepower for any and all purposes. The three successive rights of the three principal lessees must in equity be reduced, if at all, in the inverse order of alienation by the Canadian authorities. I make no reference to the International Railway Co., whose rights we do not discuss.

Another ground upon which we base our claim to preferential consideration is the comprehensive purpose of the act of Congress of June 29, 1906. The object of this act is to preserve Niagara Falls in their entirety, not the Canadian Falls alone, nor the American Falls alone, but the entire natural wonder for the gratification not of Canada alone or of America alone, but for all mankind. With this generous purpose I heartily sympathize, provided that it shall be accomplished as it can be accomplished with just regard to honest rights in the order of their priorities. In this comprehensive view of the subject it is to be considered that the two companies now represented by me are substantially one and that their developments have been and are mutually interdependent. For this reason we have not resorted to the semblance of a contract between them. Thus considered, it will become evident that the Niagara Falls Power Co. is suffering more than any other company, for it has been forbidden to proceed under its charter right to construct in New York a second tunnel for 100,000 horsepower, for which it has acquired its right of way and has made large expenditures. It is also hindered from proceeding under the charter right of the Canadian Niagara Co. to complete the second half of its wheel pit, already excavated, for the erection of six 11,000 electric horsepower turbines and dynamos. As the greatest sufferers, we submit that nothing should be conceded to our juniors because of their lesser and inferior deprivations.

THE ONTARIO CO.'S POSITION.

The Ontario Power Co., in its printed memorandum, has submitted certain claims for special consideration, to which, in our view, it is not entitled.

(a) The claim of the Ontario Co. to special consideration on the ground that it uses the water more economically than any other company is not accepted by Capt. Kutz (p. 13, clause 27). It may not be irrelevant also to suggest that as this economy is due to the construction of a power house directly and conspicuously in front of the Falls, it is unlikely to be regarded as a merit by those who are seeking to protect and preserve the scenic grandeur of Niagara. The construction of this power house directly in Niagara Gorge was the subject of timely and vigorous protest by Mr. Andrew H. Green and his associate commissioners to the Canadian commissioners, as fully considered in their seventeenth report at page 9.

(b) The suggestion that the Ontario Co. is entitled to special consideration because it is paying twice as much rent as any other company is incomplete. It should have been added that for each of its grants each of the three Canadian companies pays the same initial rent of \$15,000. The Ontario Co. has two grants, of which one is upon the Welland River, which it does not now choose to use, but which it is at liberty to use. After the rents, covering 40,000 electric horsepower, each of the three companies is to pay exactly the same rent for all of its power. Upon the sale of 40,000 electric horsepower two of the companies will pay \$37,500 and the Ontario Co. will pay \$47,500. As the Ontario Co. asserts that it has contracted to sell more than 40,000 horsepower it would seem as though now its rental will be not materially more than that of the other two companies.

If the amount of rental is of consequence, the Canadian Niagara Co., which has been paying rent since 1892—eight years longer than any other company—clearly is specially entitled to consideration. These payments up to 1906 are shown as follows by the commissioners' reports (19th, p. 11; 20th, p. 16):

Canadian Niagara Co.	\$239,577.73
Ontario Power Co.	140,000.00
Electrical Development Co.	37,500.00

(d) The plant investment in August, 1906, of the Ontario Co. proper (\$5,542,000) is not greater, but is less than that of the Canadian Niagara Co. (\$6,250,000). (See Capt. Kutz's report, p. 7, clause 7; p. 10, clause 16.)

The additional expenditures by the Ontario Co.'s customer—the Niagara, Lockport & Ontario Co.—are insignificant compared with those of the Canadian Niagara Co.'s principal—the Niagara Falls Power Co.—and its subsidiary companies in Niagara, Tonawanda, and Buffalo, with their four transmission

ness, and the many customers all exhibited to Capt. Kutz. The actual investment on the faith of this development of the Canadian Niagara Co. has been and is more than that of all the other Canadian companies and their subsidiary companies combined.

(c) The prospect of service rendered or to be rendered by the Ontario transmission line is highly colored by hope, as shown by the cold facts arrayed by Capt. Kutz in section 10 of his report.

Proceeding from a present actual delivery of 700 horsepower and a present firm contract for only 14,240 horsepower, the Ontario Co. deludes itself into the plea that it is to be considered on the basis of an actual contract for 90,000 horsepower if not for 180,000 horsepower.

It is notorious that power is used not in sparsely settled country districts but in centers of population. The Ontario transmission line runs through 150 miles of rural territory to reach Syracuse, a city with less than one-third of the population and with only $\frac{1}{10}$ of the manufactured products of Buffalo, to which, with its contiguous outlying districts, the Niagara Falls Power Co. now is actually supplying 40,000 horsepower with a demand for 5,000 more.¹ We respectfully invite the Ontario Co. to show exactly how much power it is actually supplying in Syracuse or elsewhere, and also how much power it is bound to supply there or elsewhere to any customer other than its subsidiary transmission company, i. e., itself.

POWER DELIVERIES BY OUR TWO COMPANIES.

Upon this point of actual delivery of power, it may be well now to exhibit somewhat more clearly than heretofore the necessities of our two combined companies, the Niagara Falls Power Co. and the Canadian Niagara Co.

To the amount of 85,000 horsepower, stated on pages 8 and 14 of the brief of the Niagara, Lockport & Ontario Co., and on page 2 of the brief of the Ontario Co., and stated also on page 11, paragraph 20, in Capt. Kutz's report, as the electrical load of the "combined companies" (The N. F. P. Co. and C. N. P. Co.) must be added, approximately 8,500 horsepower, the amount of the Niagara Falls Power Co.'s hydraulic load delivered to the International Paper Co., and not converted into the form of electricity.

As a matter of fact, Capt. Kutz somewhat underestimated the maximum electrical load of the combined companies. During the winter of 1905-6, it was substantially 90,000 electric horsepower. Adding 8,500 horsepower hydraulic, we have, at that time, a combined load closely approximating 100,000 horsepower. (See Appendix C.)

With the adequate provisions for reserve and for necessary repairs, in practice and under present conditions, the American electrical plant working to its capacity can not be relied upon for 85,000 horsepower.

The printed statement made by the Niagara Falls Power Co., and submitted to Capt. Kutz, under date of July 27, 1906, gives the power contracts of that company in detail, and shows an aggregate of 167,740 horsepower subject to call thereunder on the American side. The originals of these contracts also were all submitted to Capt. Kutz, and those for larger amounts of power were gone over in detail by him and by his associate, Mr. Faust, of the Department of Justice. The printed statement of the same (Niagara Falls Power) company to the Secretary of War, dated July 3, 1906, gives the amount called or in use under each of these contracts. This amount then aggregated 102,550 electric horsepower. Since that time several power consumers have increased or called for additional power in a considerable amount—notably the Niagara Electro-Chemical Co. which is now installing additional electrical apparatus to use up to a maximum of 4,500 electric horsepower; The Pittsburgh Reduc-

¹As may be seen by reference to Census Bulletin 57 already quoted, the value of manufactured products in 1905 was as follows:

Buffalo	\$172,115,100	
Niagara	16,915,786	
		\$189,030,886
Rochester	82,747,370	
Syracuse	34,823,761	
Lockport	5,807,908	
		123,378,959
		312,409,845

The lighting and transportation requirements keep pace with the manufacturing conditions.

tion Co. to use up to a maximum of approximately 10,000 horsepower, and the Union Carbide Co. up to 25,000 horsepower. The Cataract Power & Conduit Co., the Buffalo distributing agent of the combined companies, already during the present month has called upon our combined companies to provide at their power houses, a maximum which with the Tonawanda demand will call for 40,000 electric horsepower, and during the month of December will require provision, at the power plants, of not less than 5,000 electric horsepower in addition to the amount last mentioned.

The amount of 25,000 electric horsepower which the Canadian Niagara Co. is transmitting under the provisions of its temporary permit has been barely sufficient to supply the pressing demands of the present use of our combined companies. Except for the fact that on account of unexpected difficulties in construction and in crossing certain properties with its cables, the Canadian company was delayed, the entire amount of the present temporary permit already would have been used in Buffalo alone, in which case the American company would not have been able to supply the present enlarged demand on its own lands in the city of Niagara Falls, N. Y.

It is true, as stated in the memorandum of the Niagara, Lockport & Ontario Co., that our original application for 121,500 horsepower is for an amount which, in the opinion of Capt. Kutz, exceeds by 500 horsepower the present capacity of the plant, which he states "were designed for the production of 121,000 horsepower"; that is, 11 units each of a capacity of 11,000 horsepower. His deduction of one of the units as a spare, so as to put the company on the same basis with the other two Canadian companies, disregards the fact that in the case of our company reserve will be provided by the Niagara Falls Power Co. on the American side; and therefore our original application should have been not for 121,500 horsepower, but for 121,000 horsepower, which, as stated in Capt. Kutz's report, is the ultimate full capacity of our Canadian plant.

When the installation of the electrical machinery above referred to is completed, the combined companies, at times of maximum load, will require the entire available output of both the American and Canadian plants in order to supply the power demands now under contract.

THE CLAIMS OF THE TWO TRANSMISSION COMPANIES.

To the separate claims of the two transmission companies, the Niagara, Lockport & Ontario Co. and the Niagara Falls Electrical Transmission Co., we consider it unnecessary to make separate reply, for their claims are merely in support of their several principal companies in Canada.

With reference to the Niagara Falls Electrical Transmission Co., it does not appear that it is legally authorized "both for diversion and transmission" so as to come within the scope of the second section of the act.

THE CLAIM OF THE ELECTRICAL DEVELOPMENT CO.

The claim of the Electrical Development Co. for equality of treatment does not seem to us unreasonable if disposed upon the basis of priority of the three companies in the order of their establishment.

In other words, we would not deny that in fairness each of the three companies should be permitted to transmit to the extent of its capacity as developed or really in course of bona fide development prior to congressional action. But if it shall become necessary to limit the exercise of these rights, then, equitably, the discrimination should be inversely in the order of priority.

CONCERNING INTERNATIONAL TREATY.

Mr. McFarland rests his two "emergency" calls particularly upon the propositions, first, that congressional legislation will prove ineffectual unless supplemented by an international treaty; and, secondly, that "confidential advices from the State Department at Washington indicate the improbability of success in negotiations with Canada for the treaty unless the United States shows a real desire to preserve the Falls."

Thereupon Mr. McFarland proceeds to make the following statements:

(a) "The United States is now in a position to either save or ruin Niagara Falls. If we freely admit all the electricity the Canadian companies want to send in, we divert the water from the Falls as directly as if we had control of

the Canadian frontier. If the United States denies admission to this power it will not be produced, and the glory of Niagara will continue."

(b) "Insist respectfully that he (Secretary Taft) refuse to admit any power from Canada not now being admitted, because in so refusing he will be preventing the depletion of Niagara."

It is hardly conceivable that the author of these two sentences above quoted could have seriously considered their effect upon an effort to promote an international treaty, which must be written, if at all, with the free will of Canada. How could he, or those who think with him, possibly expect that the friends of Canada would concede a treaty to those who by indirection and through American authorities are virtually proposing in this particular to accomplish the "control of the Canadian frontier"?

The fair disposition of the Canadian authorities is plainly shown in the unanimous conclusion of the members of the International Waterways Commission, both of the United States and of Canada, as embodied in the report of May 8, 1906, transmitted to Congress by President Roosevelt under the date of May 7, 1906. (See pamphlet entitled "Preservation of Niagara Falls, H. R. 18024," p. 283.)

In this report the commission stated that while it was not fully agreed as to the effect of the diversion from Niagara Falls, all were of opinion that more than 36,000 cubic feet per second on the Canadian side of the Niagara River or in the Niagara peninsula, and 18,500 cubic feet per second on the American side of the river, could not be developed without injury to Niagara Falls as a whole. Accordingly the International Commission confined its recommendation to these figures, conceding twice as much draft upon the Canadian side as on the American side, probably because of the greater depth of water at the Horseshoe Falls. But it was stated expressly by the Canadian members that their assent to these conclusions was given only upon the understanding that any treaty or arrangement for the preservation of Niagara Falls should be limited to the term of 25 years, and should also establish certain principles, including the right of each country to an equal share of the diversion of international waters whether navigable or nonnavigable.

In the face of this reasonable declaration, how could anyone imagine that an international treaty would be facilitated by the suggestion that by discriminating against Canadian diversion and importation the United States in this particular may virtually control the Canadian frontier?

We should all concur in the unanimous conclusion of every member of the waterways commission, Canadian as well as American, that "it would be a sacrilege to destroy the scenic effect of Niagara Falls"; but we must recognize also that while Niagara Falls is a wonder, "fair play is a jewel." Such an indirect attempt to control the Canadian output certainly would not lead to the Canadian belief that we were disposed to play fair.

To a considerable extent the Canadian Niagara Co. represents Canadian capital, but to a still larger extent, American capital. Nevertheless, it is a Canadian company, entitled to the protection of its Canadian contract, and cheerfully recognizing and prepared to fulfill its Canadian obligations under that contract. As stated by me at the July hearing, it desires the opportunity to use in the United States all of its power not required to meet the Canadian demands under that contract, to which demands, when received, it will make prompt and cheerful response. The counsel of the Electrical Development Co. of Ontario have misapprehended my statement, when they say that our "company is not desirous of entering into any contracts with the Province of Ontario." Of course the Canadian Niagara Co. is desirous of remunerative business in Ontario as well as elsewhere, and has submitted a most reasonable bid to the Ontario Government. Here and now the Canadian Niagara Co. rests its case upon a consideration of its rights as a Canadian corporation, and not upon any pretense that, representing American capital, it has therefore any particular right of hearing which is not open equally to the Electrical Development Co. of Ontario, representing especially Canadian and English capital.

The three applications of the three Canadian companies for the right of transmission can not be, and will not be, decided by you upon a consideration of the nationality of the holders of the corporate securities.

How essential is the right of transmission, even in the view of the Electrical Development Co. of Ontario, is stated in the brief of that company at page 3, where it points out that if the amount of power which can be sold by interested parties in Canada is to become a basis of division of power to be imported into the United States, "each of the companies would doubtless willingly abandon

all sales in Canada, so as to be permitted a larger entry into the richer markets of the United States."

This frank declaration of the Electrical Development Co.—Canadian both in incorporation and in membership—serves to indicate not only its own slight appreciation of its home market, but also the sense of injustice that would be induced generally in Canada by unjust discrimination against the right of importation of Canadian power.

Since writing the foregoing we have received Mr. McFarland's third emergency call, dated November 19, in which again he complicates the possibility of international arrangement by the following extraordinary plea:

"Now there is another opportunity. Because Canada, while planning to produce 415,000 horsepower in destroying Niagara, can herself use less than 50,000 horsepower, her power companies propose to sell it in the United States. Here is our opportunity. The Secretary of War controls absolutely the admission of this power. If he shuts it out, the water which would otherwise be harnessed for the power companies will thunder its way unfettered over the great cataract.

"Inclosed are some Niagara preservation post cards. Get each one quickly into the hands of a man or woman who cares a single cent for Niagara, and let Secretary Taft thus see what the country thinks of the claims of the power companies. Ask him to admit no Niagara electrical power from Canada."

If this plea for the total exclusion of Canadian power were to prevail, the following results would happen:

The companies which have invested large sums of money in the establishment of their works would find their investments unprofitable, except to the extent that they could find consumers of power in Canada. Can anyone be fatuous enough to suppose that thereupon the companies would not seek to protect their Canadian investments by Canadian development, welcomed and assisted by the Canadian authorities? Such establishment and development in Canada, of course, would involve such concessions in the cost of Canadian power as would afford sufficient inducement to Canadian users. But with sufficient concessions, the cost of Canadian power could be brought so low that no railroad in the Province of Ontario could afford to forego the use of electricity from Niagara. Such operation would supply a market for Canadian power vastly in excess of any figures yet suggested. The Canadian Niagara Co. already has its line to Fort Erie, opposite Buffalo, and already contemplates considerable development in that vicinity and elsewhere, which ultimately may make it indifferent whether or not Canadian power shall then be transmissible into the United States.

Thus, in the end, the volume of water taken from the Niagara River would be not less than the amount which would have been taken had the Canadian power been admitted into the United States; while the United States and in particular the State of New York would lose, through the establishment in Canada of industries which otherwise would have been established in the United States.

Speaking for myself alone, and not for anyone else, I do not hesitate to express the belief that the Niagara Falls Power Co., having a New York charter right for a second tunnel in the city of Niagara Falls, could view with comparative equanimity a positive prohibition of the admission of any power from the Canadian side. Nothing could tend more directly or more effectively to make a reality of the Niagara monopoly which Mr. McFarland has regarded as potential. (First emergency call, section 9.)

The revealed purpose to coerce Canada into a treaty by laying an embargo upon power importation into the United States of course would affect Canadian development. (See Capt. Kutz, p. 14, sec. 29.)

Thus again we are led to doubt that the author of Mr. McFarland's emergency calls had formed an intelligent purpose as to the practicability of an international treaty limiting the Canadian rights.

CONCLUSION.

Upon these considerations, as well as upon those presented last summer, we ask the favorable action of the Secretary of War upon the application and the supplemental application heretofore submitted by the Niagara Falls Power Co. and the Canadian Niagara Co. for a permit to transmit Niagara power from Canada into the United States, the exact form of the permit to be submitted after decision of the principle.

FRANCIS LYND STETSON,

For the Niagara Falls Power Co. and the Canadian Niagara Co.

APPENDIX A.

THE PRIORITY OF THE CANADIAN NIAGARA CO.

The Canadian Niagara Co. is and always has been recognized by the Queen Victoria Niagara Falls Park Commissioners as the "pioneer company." (19th Rept., pp. 12-13; 18th Rept., p. 5.)

The first contract between this company and the commissioners was made April 7, 1892 (16th Rept., p. 14); the modifying contract July 15, 1899. (14th Rept., p. 11.)

Clause 11 of the modifying contract (p. 17) provides that if from any cause the supply of water at the point of intake should be diminished the company should have no claim or right of action against the commissioners "nor give to the company any right of action against other licensees or grantees of the commissioners in respect of any diminution not substantially interfering with the supply necessary for the company." The subordinating effect of this clause has been forced upon the recognition of each of the junior lessees. A substantial interference would result from the proposed diminution of our available supply. Under this contract the Canadian Niagara Co. began its work May 31, 1901 (16th Rept., pp. 5-11) before either of the other companies had even acquired a right to their present works, and long before such works were begun.

The Ontario Power Co. entered into its first contract with the commissioners—that concerning the waters of the Welland River—April 11, 1900 (14th Rept., p. 25; 16th Rept., p. 3; 19th Rept., p. 11), and its second contract—that concerning the Niagara River and its present and only constructed works—August 15, 1901. (16th Report, p. 19.)

The rights of the Ontario Co. were expressly subordinated to those of the Canadian Niagara Co. by clauses 7 and 8 of the second Ontario contract, which were as follows (16th Rept., p. 21):

"7. *Provided*, That the works on the premises delineated on the plan hereto annexed shall not interfere with or deprive the Canadian Niagara Power Co. of the right to construct, operate, and maintain the underground tunnel leading the waters of the Niagara River from the power houses and wheel pits which they are about to erect and develop in pursuance of the several agreements entered into between the Commissioners of the Queen Victoria Niagara Falls Park (herein styled the commissioners), bearing date 7th April, 1892; 15th July, 1899; and 19th June, 1901.

"8. And the company shall indemnify the commissioners from all claims or demands by any person or persons whomsoever, whether arising by reason of the exercise by the company of the powers, rights, or authorities or any of them conferred by the hereinbefore recited acts of the Parliament of Canada or either of them, or by reason of anything done by the company in the exercise thereof affecting any property, rights, or privileges heretofore by the commissioners granted to or conferred upon any person or persons whomsoever, or enjoyed, used, and exercised by any such person or persons under the commissioners; it being the intention of this agreement that should the company in the exercise of the aforesaid powers, rights, and authorities so affect any such property, right, or privileges granted by or enjoyed under the commissioners, the company shall fully indemnify the commissioners in respect thereof."

The Ontario Co. did no work upon its present plant prior to December 31, 1901 (16th Rept., p. 4), but began such work shortly after the delivery of the third agreement dated June 28, 1902, which was not validated until August 7, 1902 (17th Rept., p. 12), after the Canadian Niagara Co. had spent and incurred more than \$1,500,000 upon its entire plans for the full development of 100,000 electric horsepower. (17th Rept., p. 50.)

The Electrical Development Co. (Toronto & Niagara Power Co.) through its promoting syndicate made its first agreement with the commissioners January 29, 1903 (17th Rept., p. 30), long after the vesting of the rights of and after the beginning of actual work by each of the other two companies, whose priority, as in the Ontario contract also, was expressly recognized by the commissioners. (17th Rept., pp. 12-13.)

The rights of this Toronto syndicate were expressly subordinated to those of the Ontario Co. (17th Rept., p. 32, clause 5) and of all prior grantees, including, of course, the Canadian Niagara Co. (17th Rept., p. 37, clause 17: see also 17th Rept., p. 41, clause 5); and the syndicate was required to deposit \$25,000 as a guaranty against injury to works of the Canadian Niagara Co. or of the International Railway, by diversion or diminution of the current. (19th

Rept., pp. 16-19; 20th Rept., p. 16.) The prior rights of these earlier grantees were also expressly recognized in a further agreement dated 9th January, 1905, between the Electrical Development Co. and the commissioners (19th Rept., p. 80, clause 3), which, however, failed of legislative ratification.

In their memorandum of argument, submitted in December, 1902, before the Canadian commissioners (17th Rept., pp. 51, 52), Sir Christopher Robinson and Mr. Macrae, the counsel for the Toronto company, made the following statement:

"If the Canadian Niagara Power Co. can demonstrate that the taking of water in the manner proposed by the applicants will cause physical injury of a substantial kind to their licensed works, the Government would be justified in refusing the applicants permission; but the burden of establishing this injury rests upon that company."

This necessary admission as to the immunity of the physical structures of the Canadian Niagara Co. from injury through the establishment of the works of the Toronto company, by necessary implication concedes also the immunity of the Canadian Co. in the operation of its works, from depreciation or diminution of its granted rights in order to enable the Toronto company to operate its junior works to their full extent.

In other words, the undoubted right of the Toronto company under its agreement of January 29, 1903, to use the Canadian reservation waters therein granted, is a right to take such waters only to the extent that they are available after the prior grants of the commissioners shall have been fully satisfied. This priority of right entitles the prior licensees to preferential consideration, according to their priorities, whenever and wherever conflict in respect thereof may arise among the several licensees. Certainly it should not be overlooked in the present discussion, which is to be concluded upon a full recognition of all the equities of all the parties.

FRANCIS LYNDY STETSON,

For the Niagara Falls Power Co. and the Canadian Niagara Co.

APPENDIX B.

AMERICAN CIVIC ASSOCIATION,

OFFICE OF THE PRESIDENT,

Harrisburg, Pa., December 1, 1906.

Mr. A. C. DOUGLASS,

Niagara Falls, N. Y.

DEAR SIR: I have never made to anyone, consciously, a misleading statement. I recognize your entire honesty of purpose also. And I therefore, as I told you, proposed to obtain the details as to the statement I made in regard to the reduction of the crest line of Niagara Falls.

Hon. Charles M. Dow, of Jamestown, N. Y., chairman of the New York State Reservation at Niagara, has replied to me by wire, referring to pages 168 and 169 in the report of the hearings before the Committee on Rivers and Harbors, giving his statement in my presence, and, I think, in yours, on April 21 last. in regard to this matter.

If you will look this up you will see he made a clear-cut and definite statement, which fully supported my statement. When you made your explanation on July 12 last, I did not understand in any sense that it refuted Mr. Dow's statement, but I did understand you to say that the amount of water that was cut off by the change in the crest line was of a character similar to that then falling from the precipice near the Goat Island shore, and I called the Secretary of War's attention to this at the time, as you may remember.

The letter printed in Mr. Stetson's brief is, of course, conclusive evidence of the fact that this was not done for the interest of any power company. I could not know of this evidence, naturally, four months in advance of its presentation. I will not use the statement again in the same form.

I am glad to note that you have been made mayor of Niagara Falls. * * * We differ in this matter, but I see no reason for calling names.

Yours, truly,

J. HORACE MCFARLAND, *President.*

P. S.—I should be glad if you would call this statement to the attention of Mr. Stetson, whose address in New York I do not know.

DECEMBER 5, 1906.

J. HORACE MCFARLAND, Esq.:

DEAR SIR: I have received through Mayor-elect Douglas, of Niagara Falls, your letter to him of December 1, which you requested him to bring to my attention and in which you undertake to modify the statement which you have published to thousands of people, that the Canadians already had cut off 500 feet of the Horseshoe Falls "to accommodate a power company," and, again, "to give a better chance to one of the power companies."

I observe that you regard as conclusive Chairman Langmuir's letter and statement that this work was done for the purposes of and under the express order of the Canadian commission itself and not "to accommodate a power company."

You say that naturally you could not know of this evidence four months in advance of its presentation. But will you allow me to suggest that the fact as stated by me was true, even though this particular evidence of the fact did not exist; and that by my direction and in the presence of the general manager of our company this fact was brought to your attention directly upon July 12? When you undertook to doubt the truth of the statement of the power companies, which, as you now recognize, was perfectly true, it was, I most respectfully submit, your duty to exhaust all sources of information before undertaking to advise the American public of that which not only was absolutely untrue, but was grossly unjust to our companies.

In apparent justification of your original error you refer to the statement of Chairman Dow before the Committee on Rivers and Harbors on April 21, as published upon pages 168-169 of the report of the hearings before that committee; and you add, "If you will look this up you will see he made a clear-cut and definite statement which fully supported my statement."

In answer to this invitation, I have referred to Mr. Dow's cited testimony, and I do not find that either fully or otherwise does it support your statement that this work was done "to accommodate a power company" or "to give a better chance to one of the power companies." Mr. Dow does state that the filling in was done by the power companies, but he does not state, nor does he undertake to state, why the power companies did the filling in. The sting of your charge was not that "the filling in had been done by the power companies," which is true, and which is all that Mr. Dow said, but it was in the allegation that the filling in was done by the power companies "for their own purposes," which is untrue and which very tardily you recognize as untrue under the compulsion of Chairman Langmuir's letter, that the filling in was done for the benefit of the Canadian Park by the orders of the Canadian commissioners and not for the benefit of any power company.

I am sending a copy of this communication to Mr. Charles M. Dow, and also appending the same to the revision of my brief before the Secretary of War.

I am, faithfully, yours,

FRANCIS LYNDE STETSON.

APPENDIX C.

NEW YORK, December 1, 1906.

W. J. BARDEN,

Captain, Corps of Engineers, Washington, D. C.

MY DEAR SIR: I beg to acknowledge the receipt of your favor of November 28, transmitting the Supplemental Report of Capt. Kutz.

I have only to express my appreciation of the reasonableness of Capt. Kutz's additional conclusions, which I am happy to accept with the following modifications:

(1) As stated at the hearing before the Secretary of War, I am willing, without prejudice to our reserved right and claim of priority, and as a *modus vivendi*, pending a treaty negotiation, to consent to the equal division between the three companies of the 157,500 horsepower for which in his first report Capt. Kutz recommended that transmission permits might now issue.

This concession is made without any doubt as to the justice of the report of Capt. Kutz; but because our present Canadian installation would not enable us now to develop or to transmit the full amount of 60,000 horsepower. So soon as we shall have completed our Canadian power house as now proposed, to the full extent of 121,000 horsepower, we shall upon the ground of our priority expect to be permitted to transmit that full amount irrespective of any claim of any other company.

(2) While upon the hearing I concurred that permits for power transmission, as well as for power diversion, should be preferably in terms of cubic feet of water rather than in terms of horsepower, I did not intend, nor do I intend, to concede that the Ontario Power Co. has any ground upon which it can claim special consideration; nor did or do I intend to concede that upon any ground the Ontario Power Co. is entitled to take any water until after the full demand of the Canadian Niagara Co. has been met.

(3) As already stated in my earlier brief I ask that at all times the Canadian Niagara Co. shall be authorized to supplement and to make good from its works the draft, which under the permit of the Secretary of War the Niagara Falls Power Co. shall be authorized to make on the American side to the extent that, for any cause, such authorized draft shall fall short of the amount authorized. As these two companies are substantially one, their combined draft should be considered as one; and so long as such combined draft does not exceed the aggregate authorized by the law, it would seem to be equitable that if necessary water might be taken from the Canadian Falls to the relief of the American Falls.

(4) I desire to renew the prayer contained in my earlier brief, that consideration be given at present to our application for additional power, and this for the reason there indicated, that such permission is necessary in order to enable us to proceed with the completion of our power house, for which the wheel pit already has been dug. In this particular our position is analogous to that described by the felicitous figure used on Monday by the Secretary of War. We are in the position of the man who has built his house to the second story, and thereby is involved in the necessary expense and consequence of a roof to cover it.

For the protection of this right to complete our power house to the full extent of 121,000 horsepower, we rely primarily upon our prior right to take all of the power necessary for our purposes, even though our juniors go dry, and, secondarily, if, notwithstanding our plea, our claim to priority be rejected, then upon a consideration of our equities in respect of the additional power to be granted.

(5) I ask that after decision the form of permits be settled on notice.

This communication I submit to the Secretary of War in printed copies as constituting my reply upon the entire subject, including Capt. Kutz's report.

Your obedient servant,

FRANCIS LYNDE STETSON,

For Canadian Niagara Co. and Niagara Falls Power Co.

Postscript, December 3, 1906. In paragraph 5 of this report Capt. Kutz observes that the Niagara Falls Power Co. now is limited to the production of 76,000 horsepower (which as hereafter considered is electric horsepower not including hydraulic service), which falls short of its 102,000-horsepower requirements as stated in paragraph 4, and thus "throws a load of 26,000 horsepower on the plant of the Canadian Niagara Co."

These figures may be explained as follows:

The amount of 102,000 horsepower represents the aggregate of the maximum use of power, both electric and hydraulic, supplied by the Niagara Falls Power Co.

To this amount of maximum use the 8,600 cubic feet of water permitted would be barely adequate, and would allow only 76,000 electric horsepower available for sale, as follows:

Hydraulic:		
Niagara Falls Waterworks.....	feet.....	80
International Paper Co.....	do.....	808
		888
Electric:		
Exciters.....	do.....	34.4
Available for sale ¹	do.....	7,676
		7,710.4
		8,598.4

FRANCIS LYNDE STETSON.

¹ 76,000 horsepower \times 101 second-feet = 7,676 second-feet.

THE PRESERVATION OF NIAGARA FALLS.

To the EDITOR OF THE SCIENTIFIC AMERICAN :

At the head of the editorial columns of your publication I note that it is declared that "The purpose of this journal is to record accurately and in simple terms the world's progress in scientific knowledge and industrial achievement." Immediately following this declared purpose, in your issue of May 27, you publish an editorial entitled "Niagara Falls again threatened."

The writer has resided a lifetime in proximity to the great Falls of Niagara, has witnessed the electrical power development from the beginning, is familiar with every detail of it, and confidently asserts that the diversion of the waters of the Niagara River for power-development purposes has made absolutely no perceptible difference in the flow of the river. The only difference that has been seen in the river has been caused by the changes in the direction of the wind, by ice jams for a few hours in the winter, and by high and low water conditions that are periodical and are common to all lakes and streams. Sometimes Lake Ontario washes its banks and sometimes there are many yards of beach. In corroboration of my statement that the power development has made no perceptible difference in the flow of the river, I bring official testimony. In the early summer of 1908 the two power company plants in this city were entirely shut down for several hours, and a test was made by United States engineers to ascertain the effect upon the flow of the river over the Falls. In a letter to the Engineering News of July 2, 1908, Maj. Charles Keller, Corps of Engineers, United States Army, officer in charge of lake survey, said that during the period of the shutdown "the rise shown by the gauge set by the lake survey close to the crest of the American Fall was about an inch, and was fully as much as anticipated." Another test about the same time was officially reported by G. Edward Wilson, secretary of the American section of the International Waterways Commission, as forty-six one-hundredths of an inch. The Burton law was in effect then, it is in effect now, and Niagara Falls is not "threatened" any more now than it was then. In fact, a treaty between the United States and Great Britain has since been ratified which permits the diversion of 20,000 cubic feet per second of water on the American side and 36,000 cubic feet per second of water on the Canadian side. This provision was in accordance with the recommendation of the International Waterways Commission, which thoroughly investigated the subject. The present diversion on the American side of the river is 15,600 cubic feet per second of water, so that there is still a leeway of 4,400 cubic feet per second of water under the limitations of the treaty. Before the present permits were granted under the Burton law that went into effect June 29, 1906, William H. Taft, then Secretary of War, came to Niagara Falls and gave a hearing to all parties interested. In granting the power permits Secretary Taft promulgated a lengthy opinion, in which he said:

"The International Waterways Commission, a body appointed under a statute of the United States to confer with a similar body appointed under a statute of Canada, to make recommendations with reference to the control and government of the waters of the Great Lakes and the valley of the St. Lawrence, have looked into the question of the amount of water which could be withdrawn on the American and the Canadian sides of the Niagara River without substantial injury to the cataract as one of the great natural beauties of the world, and after a most careful examination they have reported, recognizing fully the necessity of preserving intact the scenic grandeur of the Niagara Falls, that it would be wise to restrict diversion to 28,600 cubic feet per second on the American side of the Niagara River and to restrict the diversion on the Canadian side to 36,000 cubic feet per second."

Later the British-American treaty provided for a diversion of 20,000 cubic feet per second of water on the American side and 36,000 cubic feet per second of water on the Canadian side. My information is that the present diversion is 27,000 cubic feet per second of water. Your statement is that it is 34,000 cubic feet per second of water. In the opinion referred to above Secretary Taft continued:

"I have already said that the object of the act is to preserve Niagara Falls. It is curious, however, that this purpose as a limitation upon the granting of permits by the Secretary of War is only specifically recited in reference to his granting permits for diversion of additional amounts of water over 15,600 cubic feet on the American side, which are to be limited to 'such amount, if any, as in connection with the amount diverted from the American side, shall

not interfere with the navigable capacity of said river or its integrity and proper volume as a boundary stream or the scenic grandeur of Niagara Falls.' This peculiarity in the act is significant of the tentative opinion of Congress that 15,600 cubic feet of water might be diverted on the American side and 160,000 electrical horsepower might be transmitted from the Canadian side without substantial diminution of the scenic grandeur of the Falls." And then Secretary Taft gave his decision that "acting, however, upon the same evidence which Congress had, and upon the additional statement made to me at the hearing by Dr. John M. Clark, State geologist of New York, who seems to have been one of those engaged from the beginning in the whole movement for the preservation of Niagara, and who has given close scientific attention to the matter, I have reached the conclusion that with a diversion of 15,600 cubic feet on the American side and the transmission of 160,000 horsepower from the Canadian side the scenic grandeur of the Falls will not be affected substantially or perceptibly to the eye."

That is the diversion that is taking place to-day. It was the judgment of the International Waterways Commission and the men who framed the British-American treaty that an even greater diversion would not be injurious. It was the opinion of the Congress of the United States and Secretary Taft that the present diversion would not be injurious. A test made by engineers of the United States Lake Survey Corps proved that the diversion is not perceptible, and we who see Niagara River daily say that no effect on its flow is seen as the result of power development. There is now being developed from the Falls of Niagara 850,000 electrical horsepower. Their total power-producing capacity is estimated at from 5,000,000 to 7,000,000 horse. Do you think the cataracts as a spectacle are seriously threatened?

C. T. WILLIAMS,
City Industrial Agent.

NIAGARA FALLS, N. Y.

JUNE 27, 1911.

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES,
Washington, D. C.

SIR: I have the honor to invite attention to the situation with respect to the legislation for the protection of Niagara Falls. The act of June 29, 1908 (the Burton Act), as extended by joint resolution of March 3, 1909, by which the supervision of the operations of the power companies at Niagara is placed in the hands of the Secretary of War, will expire by limitation on June 29, 1911, two days hence, and unless some action is taken by Congress the authority of the War Department in the matter will then cease, and the existing permits issued by the Secretary of War, in conformity with the terms of the act, will become void.

The treaty of May 18, 1910, with Canada fixes a maximum limit for permissible diversions of water at Niagara, but does not vest in any person or commission the power to control such diversions nor place upon any person or commission the duty of seeing that these diversions do not exceed the limits fixed by the treaty. The importance of early action in the matter by Congress is therefore apparent if the dangers of a partial or complete lapse of the supervision now exercised by the War Department are to be avoided.

I therefore urgently recommend that the matter be laid before the House, and that the importance of the early passage of Senate joint resolution 3 or of a substitute acceptable to the House be emphasized.

Very respectfully,

H. L. STIMSON,
Secretary of War.

WHAT THE AMERICAN CIVIC ASSOCIATION IS AND DOES.

The American Civic Association for the past eight years has been a recognized national organization for the making of better living conditions for all America, especially in the improvement of the physical and structural growth of communities. Its purpose is briefly stated as being "the cultivation of higher ideals of civic life and beauty in America, the promotion of city, town, and neighborhood improvement, the preservation and development of landscape and the advancement of outdoor art."

The general offices of the American Civic Association were established in Washington in January, 1910, and from that city there has been conducted a

vigorous propaganda by correspondence and distribution of printed literature extending to all parts of the United States and Canada. The association maintains a department for the rental of lantern slides, which may be used by local speakers, and which are descriptive of the changes that may be effected in towns and cities.

These are particularly valuable because they illustrate, in picture form, conditions "before and after" in scores of communities where ~~sanitary~~ work has been done. Under the patronage of the association sectional meetings have been held in various sections and during the year to come it is proposed to arrange several important territorial meetings where representatives from a group of States may be brought together to hear the practical talks given by experienced men on many phases of the work of the association.

The American Civic Association is supported by a membership of individuals and affiliated societies, the annual fee being \$5, with special classes of sustaining members at \$10, life members at \$50, and contributing members at larger sums.

The principal officers of the association are J. Horace McFarland, of Harrisburg, Pa., president; Clinton Rogers Woodruff, of Philadelphia, first vice president; William B. Howland, of New York, treasurer; and Richard B. Watrous, of Washington, secretary. These are assisted by five vice presidents—George B. Dealey, of Dallas, Tex.; Dr. John Wesley Hill, of New York; Mrs. Edward W. Biddle, of Carlisle, Pa.; George W. Marston, of San Diego, Cal.; and J. Lockie Wilson, of Toronto, Canada. In addition there is a general executive board made up of 18 prominent men and women from various cities all over the country.

The scope of the association is not limited. It stands for better living conditions, and that takes in almost everything. It stands for clean streets and solicits the aid of every citizen; it advocates germ-free drinking water, and is doing what it can to educate the public to see that economy and health are both on the side of good water; it espouses underground wires for electric lines, and is striving to impress the public with the importance of such a program; it believes in playgrounds for the children and parks for grown-ups, and is lending aid to every agency that would bring them about; it believes water fronts free from filth are essential to public health, and therefore advocates adequate systems of sewage. Public-comfort stations, garden schools for children, grouping of public buildings, care of the trees and planting of new ones—these are some of the planks in the platform of the association. And it has more effective means of campaigning for the public good than are usually at the disposal of uplift workers. Its members are enthusiastic believers in the promotion of the public welfare, and are moved by humanitarian instincts; it has hundreds of affiliated organizations which work to further its purposes; it has an efficient publicity system for commanding the public attention and a system of distributing its literature where it will count. Thus equipped, it expects to do its part toward making the ensuing year notable for the promotion of the welfare of all classes and conditions of society.

IN THE CIRCUIT COURT OF THE UNITED STATES WITHIN AND FOR
THE DISTRICT OF COLORADO, SITTING AT PUEBLO.

The Cascade Town Company, complainant, v. The Empire Water and Power Company et al., defendants. In equity. No. 413.

Leander A. Bigger, complainant, v. The Empire Water and Power Company et al., defendants. In equity. No. 353.

I. THE FACTS.

Complainant, The Cascade Town Co., owns several hundred acres of land up Ute Pass, about 11 miles from Colorado Springs. Fountain Creek flows through Ute in an easterly direction, and as it passes the lands of the complainant company its waters are augmented by those of Cascade Creek—short in length of flow but precipitous—which come down from the watershed on the northerly slope of Pike's Peak to the westerly.

The said complainant company and its predecessors in title have owned these lands for many years, and they began improving them as a summer resort more

than 20 years ago and have maintained them as such ever since and have not sought to utilize them otherwise. For that purpose they have constructed hotels there and built cottages, roads, and trails on its lands extending up through Cascade Canyon, through which the stream of the same name flows, and on beyond into the mountains, laid out, dedicated to the public, and improved a small park in said canyon, made a lake and fountain, built a pavilion or auditorium for conventions, and otherwise improved its grounds, thereby adding to the attractions of the place as left by nature. The complainant company and its predecessors are not, and were not, municipal corporations but business ventures created for the purpose of maintaining their property as a resort for tourists during the summer season. The place is known as Cascade. The Midland Railway, which traverses Ute Pass, has a station there. The complainant company has sold some of its property to persons who desired to improve the same as summer homes, and the complainant Bigger has spent about \$15,000 in improving his home on land bought from the company, lying on both sides of Cascade Creek just below the canyon. The company obtains an income from those who stop at its hotels and enjoy other accommodations which it offers. It has spent a large amount of money in improvements. The roads and trails up Cascade Canyon and on into the mountains were constructed at an expense of fifteen or twenty thousand dollars. It also built a small water-works to supply the cottages and its hotels. It advertises the place for the purpose of inducing the public to go there, and for the past quarter of a century it has been visited annually by twelve or fifteen thousand people. It has a permanent population of 50 or 60 people.

Among other attractions held out in its advertisements are Cascade Canyon and the falls of Cascade Creek through the canyon. The canyon and falls are rare in beauty and constitute the chief attraction. Without them the place would not be much unlike any other part of Ute Pass. The canyon is about three-quarters of a mile long and very deep; its floor and sides are covered with an exceptionally luxuriant growth of trees, shrubbery, and flowers. This exceptional vegetation is produced by the flow of Cascade Creek through the canyon and the mist and spray from its falls. Some of these falls are as much as 30 feet in height, but the difference in elevation between the foot and the head of the canyon is so great that the falls are almost continuous from the head down. The volume of water is the greatest during the summer season. It comes from the melting snows and on the north slope of Pike's Peak. But the flow is fairly even, due to the fact that the upper stretches of the watershed are composed of disintegrated granite, into which the water first sinks and gradually percolates until gathered into the bed of the stream. The volume is said to be equivalent to a stream about 8 feet wide and 6 to 8 inches in depth. The vegetation in the canyon and up its sides consists, in part, of pine, spruce, fir, balsam, aspen, black birch, Japanese maple, thimbleberry, wild cherry, chokecherry, and aster columbine, larkspur, wild rose, the red raspberry, wild gooseberry, ferns, mosses, and many other kinds of trees, shrubs, and flowers. The stream is annually stocked with trout. The birds which are found in the canyon—some grouse, a few squirrels, and perhaps a few wild animals there—are protected by the complainant company. The complainant called a florist of 25 years' experience and a landscape gardener of 25 years' experience as witnesses. They tell us that the native flora of the country is quite extensive in Cascade Canyon; that the evergreen features are perfect; that there are three or four varieties of pines, three of juniper, and three of spruce, probably 25 varieties of native perennials, and several varieties of moss growth and a large variety of wild flowers and flowering shrubs; that the waterfalls create a spray and mist which, together with the underground seepage down the sides of the canyon, produce this very luxuriant growth, there being at least 200 varieties of vegetation; and that it is far superior in that respect to any other canyon in the neighborhood, and exceptional. The seepage and the mist and spray give life to the foliage.

The defendant was incorporated for the purpose, among other things, of generating electricity by water power, and to dispose of the same as a commodity; and to execute that purpose it sent its agents on to the watershed of Pike's Peak, above the head of Cascade Canyon, and located a reservoir site and did some acts, at small expense, looking to the execution of that purpose, whereby it intended and expected to impound the waters in such reservoir and later conduct it in pipes down the mountain to and beyond the property of the complainant company. And thereupon complainants filed their several bills

asking that the defendant be enjoined from so doing as a threatened injury to their vested rights.

It is found as a fact that if the defendant do impound the waters of Cascade Creek above the falls and conduct it therefrom in pipe as aforesaid, the falls in the canyon and the vegetation on its floor and sides will be largely if not wholly destroyed and the canyon hence become a dry gulch, and that all the waters flowing in said stream are needed by complainant company, and are necessary for the aforesaid purpose to which they have been applied by said complainant.

II. THE LAW.

1. The first contention of both complainants is that the Government, while it was the owner of the lands on which the canyon and the falls are situated, had riparian right in the stream and that those rights were conveyed by patent from it, through mesne conveyances, to the complainants.

This contention can not be accepted. There are no riparian rights in Colorado as against a valid appropriation of water.

In *Sternberger v. Eaton Co.* (45 Colo., 401, 404), it is said:

"The doctrine in this State that the common-law rule of continuous flow of natural streams is abolished is so firmly established by our constitution, the statutes of the Territory and the State, and by many decisions of this court, that we decline to reopen or reconsider it, however interesting discussion thereof might otherwise be, and notwithstanding its importance."

And again, page 403:

"The Supreme Court of the United States in several cases has approved and indicated its satisfaction with the decisions of the State courts which hold that the common-law doctrine has been abolished, and has said that each State, without interference by the Federal courts, may for itself, and as between rival individual claimants determine which doctrine shall be therein enforced."

In *Coffin v. Left Hand Ditch Co.* (8 Colo., 443, 446), it is said:

"It is contended by counsel for appellants that the common-law principles of riparian proprietorship prevailed in Colorado until 1876, and that the doctrine of priority of right to water by priority of appropriation thereof was first recognized and adopted in the constitution. But we think the latter doctrine has existed from the date of the earliest appropriations of water within the boundaries of the State. The climate is dry, and the soil, when moistened only by the usual rainfall, is arid and unproductive; except in a few favored sections, artificial irrigation for agriculture is an absolute necessity. Water in the various streams thus acquires a value unknown in moister climates. Instead of being a mere incident to the soil it rises when appropriated to the dignity of a distinct usufructuary estate, or right of property. It has always been the policy of the national as well as the Territorial and State governments to encourage the diversion and use of water in this country for agriculture, and vast expenditure of time and money have been made in reclaiming and fertilizing by irrigation portions of our unproductive territory. Houses have been built and permanent improvements made; the soil has been cultivated and thousands of acres have been rendered immensely valuable, with the understanding that appropriations of water would be protected. Deny the doctrine of priority or superiority of right by priority of appropriation and a great part of the value of all this property is at once destroyed.

"The right to water in this country by priority of appropriation thereof we think is, and has always been, the duty of the National and State governments to protect. The right itself, and the obligation to protect it, existed prior to legislation on the subject of irrigation. It is entitled to protection as well after patent to a third party of the land over which the natural stream flows as when such land is a part of the public domain; and it is immaterial whether or not it be mentioned in the patent and expressly excluded from the grant.

"The act of Congress protecting in patents such right in water appropriated, when recognized by local customs and laws, was rather a voluntary recognition of a preexisting right of possession, constituting a valid claim to its continued use, than the establishment of a new one. (*Broder v. Notoma W. & M. Co.* 11 Otto, 274.)

"We conclude, then, that the common-law doctrine giving the riparian owner a right to the flow of water in its natural channel upon and over his lands, even though he makes no beneficial use thereof, is inapplicable to Colorado. Imperative necessity, unknown to the countries which gave it birth, compels the recognition of another doctrine in conflict therewith. And we hold that,

in the absence of express statutes to the contrary, the first appropriator of water from a natural stream for a beneficial purpose has, with the qualifications contained in the Constitution, a prior right thereto to the extent of such appropriation."

Congress, as early as 1866, recognized the necessity of the abolition of the common-law doctrine of riparian rights in the arid States. Speaking of the act of July 28, 1866, the Supreme Court, in *United States v. Rio Grande Irrigation Co.* (174 U. S., 690, 740), said:

"The effect of this statute was to recognize, so far as the United States are concerned, the validity of the local customs, laws, and decisions of courts in respect to the appropriation of water."

And again, at page 702:

"While this is undoubted (the rule of the common law as to riparian rights), and the rule obtains in those States in the Union which have simply adopted the common law, it is also true that as to every stream within its domain a State may change this common-law rule and permit the appropriation of the flowing waters for such purposes as it deems wise."

In *Gutierrez v. Albuquerque Land Co.* (188 U. S., 545, 552) it is said:

"We think, in view of the legislation of Congress on the subject of the appropriation of water on the public domain, particularly referred to in the opinion of this court in *United States v. Rio Grande Irrigation Co.* (174 U. S., 690, 704-706), the objection is devoid of merit. As stated in the opinion just referred to, by the act of July 28, 1866 (14 Stat., 253), Congress recognized as respects the public domain, so far as the United States are concerned, the validity of the local customs, law, and decisions of courts in respect to the appropriation of water."

Also *Clark v. Nash* (195 U. S., 361, 370):

"The rights of a riparian owner in and to the use of the water flowing by his land are not the same in the arid and mountainous States of the West that they are in the States of the East. These rights have been altered by many of the Western States, by their constitution and laws, because of the totally different circumstances in which their inhabitants are placed, from those that exist in the States of the East, and such alterations have been made for the very purpose of thereby contributing to the growth and prosperity of those States arising from mining and the cultivation of an otherwise valueless soil by means of irrigation. This court must recognize the difference of climate and soil which rendered necessary these different laws in the States so situated."

This question had direct consideration by the circuit court of appeals for this circuit in the case of *Snyder v. Colorado Gold Dredging Co.*, opinion in which was filed August 4, 1910. In that case it is said:

"The common-law doctrine in respect of the rights of riparian proprietors in the waters of natural streams never has obtained in Colorado. From the earliest times in that jurisdiction the local customs, laws, and decisions of courts have united in rejecting that doctrine and in adopting a different one which regards the waters of all natural streams as subject to appropriation and diversion for beneficial uses, and treats priority of appropriation and continued beneficial use as giving the prior and superior right. (*Yunker v. Nichols*, 1 Colo., 551; *Coffin v. Left Hand Ditch Co.*, 6 Colo., 443, 447; *Platte Water Co. v. Northern Colorado Irrigation Co.*, 12 Colo., 525, 531; *Crippen v. White*, 28 Colo., 296.) In so choosing between these two inconsistent doctrines Colorado acted within the limits of her authority, first as a Territory and then as a State, and her choice was recognized and sanctioned by Congress, so far as the public lands of the United States were concerned."

And again:

"It needs only to be added that, by the settled rule of decision in the Supreme Court of the United States, conveyances by the United States of public lands on nonnavigable streams and lakes, when it is not provided otherwise, are to be constructed and have effect according to the law of the State in which the lands are situate, so far as the rights and incidents of riparian proprietorship are concerned. (*Hardin v. Jordan*, 140 U. S., 370, 384, 402; *Hardin v. Sheed*, 190 U. S., 508, 519; *Whittaker v. McBride*, 197 U. S., 510; *Harrison v. Fite*, 78 C. C. A. 447, 148 Fed., 781, 783.) Here it is not provided otherwise, either by statute or by the patent, and, as has been seen, the local law does not recognize a conveyance of the land as carrying any right to the unappropriated waters of the stream."

It is therefore believed that the patent from the Government did not pass, and the patentee did not take riparian rights to the waters in question, but

that said lands are held by the complainants subject to the law of appropriation of waters as established in this State. And inasmuch as there is no testimony showing any right to the waters of Cascade Creek in the complainant Bigger, other than that of a riparian owner, the finding of the court must be against him, and his case dismissed, if the alleged threatened acts would constitute a valid appropriation.

2. If the defendant were permitted to impound and pipe the waters of Cascade Creek for the purpose of generating electricity to be sold by it as a commodity, as charged in the bill it was threatening to do and admitted in the answer and shown by the proof it intended to do, such acts would have constituted a valid appropriation of said waters under the constitution and laws of the State of Colorado as they have been constituted by the court of last resort in this State. (*Lamborn v. Bell*, 18 Colo., 346; *Sternberger v. Seaton* N. Col., 45 Colo., 401; See also, *Schwab v. Beam*, 86 Fed., 41, 43.)

3. Does the testimony show an appropriation of the waters of Cascade Creek by the complainant company or its predecessors in title along the falls as they flow through Cascade Canyon?

The people of Colorado dedicated to the public all unappropriated waters of every natural stream within its borders and made them subject to appropriation as private property. (Const. of Colo., art. 16, secs. 5 and 6.)

Section 6 reads, in part, as follows:

"The right to divert the unappropriated waters of any natural stream to beneficial uses shall never be denied."

But neither the manner of making such appropriation nor the acts necessary to be done to constitute an appropriation has been definitely fixed by the constitution, by the statutes, or by the decisions of the courts. Nor has the term "beneficial uses," as used in section 6, supra, been definitely fixed and limited in its meaning. I can not better express my own views as to the meaning of that phrase, applicable to the facts here, than to quote a part of the brief of the learned solicitor for complainant:

"The courts have not defined, because they as yet are unable to define, the exact boundaries of the territory known as 'beneficial use.'"

Mr. Kinney, in his work on Irrigation, says:

"The purpose contemplated for the use of the water may be irrigation for agricultural or horticultural purposes, mining, milling, manufacturing, domestic, or any other purpose for which water is needed to supply the natural and artificial wants of man provided to be a beneficial use." (Sec. 150)

Pomeroy says (sec. 47):

"The purpose may be mining, milling, manufacturing, irrigating, agricultural, horticultural, domestic, or otherwise; but there must be some actual, positive, beneficial purpose, existing at the time or contemplated in the future, as the subject for which the water is to be utilized.

"The public health is a beneficial use, and for that purpose, among others, a city may condemn streams of water. The water, when so obtained, may be used, and is used, in any manner that will promote the public health; it is used for sprinkling the streets, washing the pavements, and flushing the sewers.

"Rest and recreation is a beneficial use, and for that purpose water is used to make beautiful lawns, shady avenues, attractive homes, and public parks, with fountains, lakelets, and streams, and artificial scenic beauty.

"Cities condemn water and use water for the foregoing purposes. No one questions but that public health, rest, and recreation is a domestic use as well as a beneficial use. No one, we may add, questions the right to these uses.

"The law inside of a city is not different from the law outside of the city. In one sense there is no commercial value to fountains and parks; they do not bring in a revenue, but they are vastly beneficial to the public health, rest, and recreation, and such fact is recognized the world over, and there can be no question but that water applied to their maintenance and creation is a 'beneficial use.'

"We say that the creation of a summer resort is a beneficial use. Is it no benefit to the public to spend money in making a beautiful place in nature visible and enjoyable? Is it not in line with public health, rest, and recreation? If a person takes a stream and, after putting in waterfalls, ponds, bridges, walls, shrubbery, and bluegrass sod, works it into a beautiful home, that is a beneficial use. It is beneficial to the weary, ailing, and feeble that they can have the wild beauties of nature placed at their convenient disposal. Is a piece of canvas valuable only for a tent fly but worthless as a

painting? Is a block of stone beneficially used when put into the walls of a dam and not beneficially used when carved into a piece of statuary? Is the test dollars, or has beauty of scenery, rest, recreation, health, enjoyment something to do with it? Is there no beneficial use except that which is purely commercial?

"It would seem that parks and playgrounds and blue grass are benefits and their uses beneficial although there is no profit derived from them; if not, then the contention of the defendant corporation must be maintained that nothing but money-making schemes are beneficial. The world delights in scenic beauty, but must scenic beauty disappear because it has no appraised cash value? If this defendant corporation takes the water out of Cascade Canyon, it can take the water out of the Seven Falls and Cheyenne Canyon, and Glen Eyrie, and the beautiful parks, and homes and summer resorts of the State. We feel compelled to say that there are other beneficial uses of the fall of water than the mere production of commodities in competition with others now existing. When the defendant company says the complainants are putting the fall of the water to no beneficial use, it means that the complainants are not ruining the beautiful scenery for cash."

It is therefore held that the maintenance of the vegetation in Cascade Canyon for the purposes to which it has been devoted by the complainant, by the flow and seepage, and mist and spray of the stream and its falls as it passes through the canyon, is a beneficial use of such waters within the meaning of said section 6, article 16 of the constitution, that the complainant intended to use the waters of Cascade Creek for that purpose and has so used them for many years and thereby appropriated the same. The complainant is not required to construct ditches or artificial ways through which the water might be taken from the stream in order that it might appropriate the same. The only indispensable requirements are that the appropriator, in order to constitute a valid appropriation, first, must intend to use the waters for a beneficial use, and, second, actually apply them to a beneficial use. There is express statutory recognition of utilization of lands from natural overflow as one means of appropriation, as in the flooding of meadows by natural overflow without the use of any artificial means whatever. (Rev. Stats. of Colo., 1908, sec. 3165; *Humphreys Co. v. Frank*, 46 Colo., 524; *Broad Run Inv. Co. v. Deuel & Snyder Imp. Co.*, 108 Pac. (Colo.), 755.)

The supreme court of this State, in considering the means necessary to constitute appropriation, in *Thomas v. Guiraud* (6 Colo., 530, 533), said:

"We do not agree with counsel for plaintiff in error in their position, as we understand it that the appropriation of water by Guiraud in 1862 was not valid or permanent because he constructed no ditches. Some of the witnesses testify that he did construct ditches, but it is unnecessary for us to weigh the testimony and determine the preponderance thereof upon this question. If a dam or contrivance of any kind will suffer to turn water from the stream and moisten the land sought to be cultivated, it is sufficient though no ditch is needed or constructed. Or if land be rendered productive by the natural overflow of the water thereon, without the aid of any appliances whatever, the cultivation of such land by means of the water so naturally moistening the same is a sufficient appropriation of such water, or so much thereof as is reasonably necessary for such use. The true test of appropriation of water is the successful application thereof to the beneficial use designed; and the method of diverting or carrying the same or making such application is immaterial."

And again, considering the same question, that court, in *Larimer Co. R. Co. v. People ex rel.* (8 Colo., 614, at 616), declares:

"It is claimed that when the constitution recognizes the right to appropriate water by diversion, it excludes the appropriation thereof in any other manner. Further, that the word 'divert' means to take or carry it away from the bed or channel of the stream; that therefore respondent's act of utilizing a natural reservoir in the bed of the stream and thus storing surplus water for future use, not being a diversion in the sense of the constitutional provision cited, is in conflict therewith. We are not prepared to concede the correctness of counsel's position. It is our opinion that the above is not the most natural and reasonable view to adopt concerning the meaning of the constitution. The word 'divert' must be interpreted in connection with the word 'appropriation' and with other language used in the remaining sections of that instrument referring to the subject of irrigation. We think there may be a constitutional appropriation of water without its being at the instant taken from the bed of the stream. This court has held that 'the true test of the appropriation of

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water is the successful application thereof to the beneficial use designed, and the method of diverting or carrying the same or making such application is immaterial." (Thomas v. Guiraud, 6 Colo., 530.)

See also Fort Morgan L. & C. Co. v. South Platter Ditch Co., 16 Colo., 1, 5.

In Offield v. Ish, 57 Pac. (Wash.), 809, it is said:

"The right to use the water is the essence of appropriation. The means by which it is done are incidental."

See also McCall v. Porter (70 Pac. (9re.), 820, 822).

It therefore appears that the waters of Cascade Creek, which the defendant threatens to impound and carry away in pipes, has already been appropriated by the complainant, the Cascade Town Co., for beneficial uses, and that it has a vested property right therein which the defendant's contemplated acts, if executed, will destroy. The complainant company may have a decree as prayed, with costs. The bill of complainant, Bigger, will be dismissed, with costs to the defendant against him.

District Judge.

PUEBLO, COLO.

[Telegram.]

FEBRUARY 17, 1911.

We respectfully urge that you use every effort to secure the adoption of Senate joint resolution 143 extending the Burton Act for the preservation of Niagara River. The Burton Act was carefully framed to recognize and protect every interest then existing to the full extent of all development then projected. To maintain the status can inflict no possible harm upon existing enterprises. To change it as proposed by the Alexander bill, will quickly produce maximum Canadian development by permitting the full utilization in the United States of the power generated in Canada against the spirit of the treaty and to the great detriment of Niagara Falls. We earnestly urge that no further hearings be granted but that the resolution be at once pressed for passage. Public sentiment throughout the entire country has hitherto been overwhelmingly expressed to Congress in support of the Burton Act.

THE MERCHANTS' ASSOCIATION OF NEW YORK.

THE J. L. HUDSON Co.,
Detroit, Mich., May 6, 1911.

Mr. RICHARD B. WATROUS,
Secretary American Civic Association, Washington, D. C.

MY DEAR MR. WATROUS: I have yours 5th and have written to each member of the Senate Committee on Foreign Relations. except Mr. Burton, as follows:

"I am exceedingly interested in Niagara Falls. For 40 years I have been in the habit of going there. I have never seen anything that compares with the Falls in grandeur, and I have been utterly opposed to diverting the waters from their natural course.

"I think we made a mistake in giving the power companies any rights there at all. They now use 34,000 cubic feet per second and want 58,000. I feel very earnestly that their request should be denied. The enormous amount of water that went over the Falls before any of it was diverted was none too much, and now in many places the decrease is noticeable.

"I hope your committee will report the Burton bill out favorably, and that the Senate will approve of the committee's findings. I think the financial advantage of any man or any set of men should not be considered at all in connection with such a world wonder as Niagara Falls is.

"I hope you think as I do about it, and that you will support the Burton bill."

To Mr. Burton I have written:

"I am very much interested in Niagara Falls and have written to each member of the Senate Committee on Foreign Relations as follows: 'Can I do anything further to help you in this matter?'"

With kind regards, I am,

Yours, very truly,

J. L. HUDSON.

ERIE AND ONTARIO SANITARY CANAL COMPANY—PROPOSED BILL
FOR CONGRESS.

A BILL To give effect to the treaty between the United States and Great Britain.

Whereas it is stipulated in Article V of a treaty between the United States and Great Britain, signed January eleventh, nineteen hundred and nine, commonly known as the waterways treaty, that the United States may authorize and permit the diversion within the State of New York of the waters of the Niagara River above the Falls for power purposes, not exceeding in the aggregate a daily diversion at the rate of twenty thousand cubic feet per second, provided the level of Lake Erie and the flow of the Niagara River shall not be appreciably lowered; and

Whereas the prohibitions of Article V do not apply to the diversion of water for sanitary and domestic purposes, and for the service of canals for the purpose of navigation; and

Whereas it is stipulated in Article IV of said treaty that the boundary waters shall not be polluted on either side, to the injury of health or property on the other; and

Whereas the cities bordering upon the Niagara River and situate in the district contiguous thereto are subjected to epidemics of typhoid fever caused by the polluted water taken from Niagara River, and considerations of public health demand the abatement of these dangers without delay; and

Whereas the Erie and Ontario Sanitary Canal Company has been organized under the laws of the State of New York to construct, without State or Federal aid, a canal between Lake Erie and Lake Ontario, beginning at a point at or near Smokes Creek, south of the city of Buffalo on Lake Erie, and thence to the mouth of Eighteen Mile Creek on Lake Ontario, a distance of fifty miles, more or less; and

Whereas it is hereinafter provided that said canal shall be used free of cost by the cities of Lackawanna, Buffalo, Tonawanda, North Tonawanda, Niagara Falls, Lockport, and all other municipalities and communities situate upon the Niagara frontier, to carry off all the sewage and the sewage-polluted storm waters now flowing from said towns, cities, and municipalities into Lake Erie and the Niagara River, polluting the water thereof, to the great injury to the health of the persons living along the said Niagara frontier; and

Whereas the said canal will be of sufficient depth and width to enable boats, barges, and other water craft of large tonnage to navigate the same from its beginning on Lake Erie to a point intercepting the Erie Canal at or near the city of Lockport, in the State of New York, thereby increasing the efficiency and the value to the public of said Erie Canal; and

Whereas the level of Lake Erie will not be lowered by the building of said canal so as to interfere with or affect its navigability; and the waters flowing within the Niagara River, now under the control of the War Department, shall not be diverted so as to affect the beauty and grandeur of the volume thereof flowing over Niagara Falls: Therefore, to carry out conservation of health and power.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled—

That the Erie and Ontario Sanitary Canal Company, a corporation organized under the laws of the State of New York, be, and the same is hereby, authorized to take six thousand cubic feet of water per second from Lake Erie and Niagara River for sanitary purposes and canal navigation and power, four thousand four hundred cubic feet thereof being the remaining part unused of the twenty thousand cubic feet allowed for power on the American side under said treaty, and one thousand six hundred cubic feet thereof being an allowance under said treaty especially for sanitation and navigation, which volume of water shall be taken through three channels, designated as Buffalo River, Smokes Creek, and Black Rock Harbor.

SEC. 2. That the company within two years after the passage of this act shall begin the construction of the aforesaid canal without seeking from State or Nation other aid than that afforded by such cooperation as may properly be effected between Federal and State authorities; and the said company shall thereafter with due diligence prosecute the work to completion.

SEC. 3. That in consideration of the aforesaid grant said company shall give to the cities of Lackawanna, Buffalo, Tonawanda, North Tonawanda, Niagara Falls, Lockport, and all other municipalities, public and private corporations,

and individuals situate or living in what is known as the Niagara frontier the free use and perpetual right to use the said canal for sewage-disposal purposes, and for the carrying off of flood waters caused by storms.

SEC. 4. That in consideration of the facilities which it will afford to the communities, municipalities, corporations, and individuals enumerated in section three of this act the company shall have and forever enjoy the right to and possession of all the water power which it is possible to develop from the volume of water which this act permits it to withdraw from Lake Erie and cause to flow through its proposed channels into Lake Ontario.

SEC. 5. That the company shall have the right, when Buffalo River shall have been sufficiently deepened and enlarged to a junction with the proposed canal, to make a proper connection of said river with said canal, and thereafter cause the waters of Lake Erie to flow through said Buffalo River into the said canal.

And further, that the said company may make such changes and improvements in Smokes Creek, Ellicott Creek, and other streams in Erie and Niagara Counties as will permit water to enter the said streams from Lake Erie, and through them into the canal of the said company, and through the same into Lake Ontario.

And further, that the said company may build and maintain at the mouths of Smokes Creek and Eighteen Mile Creek such protecting piers and docks as may be necessary to carry out the purposes and operations of the company; all of which construction affecting navigation shall be done under the direction of the War Department.

SEC. 6. That the provisions of this law shall cease to be operative should it be judicially determined that said company has entered any conspiracy or unlawful combination or monopoly in restraint of trade.

SEC. 7. That the Secretary of War shall continue the present permits for the diversion of fifteen thousand six hundred cubic feet per second.

NIAGARA FALLS, N. Y., *January 18, 1912.*

By Delegate F. M. Hallett:

Whereas the Committee on Foreign Affairs of the House of Representatives is at this time considering legislation on Niagara River diversion for power development; and

Whereas there is now no competition among the Niagara River power companies, with the result that exorbitant prices are charged for electric current for power and lighting purposes in this city; Therefore be it

Resolved, That the delegates in the Trades and Labor Council of Niagara Falls, N. Y., assembled, respectfully urge that the committee forward legislation extending the limit of Niagara River diversion from 15,000 cubic feet per second to 20,000 cubic feet per second; and

That the Committee on Foreign Affairs make provision in the pending bill to grant to the city of Niagara Falls the right to apply for a permit to divert water from the Niagara River for power purposes, so as to permit the creation of a municipal electric lighting and power plant; and be it further

Resolved, That a copy of this resolution be forwarded to Representative William Sulzer, of New York, chairman of the Committee on Foreign Affairs; to Representative James S. Simmons, of Niagara Falls, N. Y.; and to Representative Charles Bennett Smith, of Buffalo, N. Y., asking their efforts to forward such legislation.

JOS. P. HUNTER, *President.*
JOHN J. NICHOLS, *Secretary.*

THE TORONTO POWER CO. (LTD.),
Toronto, Ontario, January 20, 1912.

HON. HENRY LEWIS STIMSON,
Secretary of War, Washington, D. C.

DEAR SIR: Re "An act for the control of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes," and license of the Niagara Falls Electrical Transmission Co.

We understand that in the recent hearing in regard to the licenses for importing power to the United States from Canada under what is known as the Burton Act, which licenses are expiring March 1, 1912, that the statement was

made that the 46,000 horsepower allowed the Niagara Falls Electrical Transmission Co. for importation under the terms of the act was not being used, and was consequently not available for United States demand for power.

If you will be good enough to grant us the favor of an interview, we will be glad to go to Washington any time convenient to your honorable self to refute this statement.

Very truly, yours,

ROBERT J. FLEMING, *General Manager.*

[First indorsement.]

WAR DEPARTMENT,
OFFICE OF THE SECRETARY,
January 22, 1912.

Letter dated Toronto, Ontario, January 20, from Robert J. Fleming, general manager the Toronto Power Co. (Ltd.), re use of power allowed the Niagara Falls Electrical Transmission Co.

The Secretary of War wishes a report from you on this matter.

W. R. PEDIGO, *Private Secretary.*

The CHIEF OF ENGINEERS.

[Second indorsement.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, January 23, 1912.

1. Respectfully returned to the Secretary of War.

2. It is believed that the hearing referred to within is the one which has been in progress before the Committee on Foreign Affairs of the House of Representatives since the 16th instant, with reference to the diversion of water at Niagara Falls and the importation of electrical power from Canada, and which, it has been announced, will be resumed at 10 o'clock on the morning of the 26th instant. Representatives of different power and transmission companies have been present at the various sessions, and free expression of their views has been invited.

3. It is recommended that Mr. Fleming be informed accordingly by telegraph and that this letter be referred to Hon. William Sulzer, chairman of the House Committee on Foreign Affairs, with a statement of the action taken by the Secretary of War.

EDW. BURR,
Acting Chief of Engineers.

[Third indorsement.]

WAR DEPARTMENT, *January 24, 1912.*

Respectfully referred to Hon. William Sulzer, chairman Committee on Foreign Affairs, House of Representatives, Mr. Fleming having been advised in accordance with the recommendation of the Acting Chief of Engineers, United States Army—copy of telegram herewith.

By order of the Secretary of War:

JOHN C. SCOFIELD,
Assistant and Chief Clerk.

WASHINGTON, D. C., *February 3, 1912.*

The SECRETARY OF WAR.

DEAR SIR: Representing the Erie & Ontario Sanitary Canal Co., I offer to pay one-sixth of the cost of diffusing the waters above the Horseshoe Falls, according to plans of Isham Randolph, explained heretofore to President Taft and the engineers of the Canadian Government, provided the grant asked for by the company of 6,000 cubic feet per second is made under the terms of the treaty between the United States and Great Britain signed January 11, 1909.

Maj. Keller has recommended, in Senate Document No. 105, page 15, that similar diffusion works be paid for by the power companies, and it is to carry out the spirit of that recommendation that I make this statement.

Yours, truly,

ERIE & ONTARIO SANITARY CANAL CO.,
By MILLARD F. BOWEN, *President.*

LA SALLE, N. Y., *January 4, 1912.*HON. WM. SULZER, M. C.,
Washington, D. C.

DEAR SIR: Since the inclosed letter was written the Burton Act has been extended to March 31, 1912, thus making it doubly certain that the next session of Congress will be called upon for some solution of this great problem.

In the preparation of the accompanying letter I have made use of the reports of United States engineers, the published records of hearings before the Committees on Rivers and Harbors at Washington, and my own personal knowledge of the power situation on the Niagara frontier. I have no financial interest in or connection with any existing or prospective power company, and only desire that, with just and proper regard for vested interests of great value that can not be ignored, such legislation may now be had as will most surely promote the public welfare.

It certainly is true that the conservation and proper utilization of the nation's water power takes rank in importance with the great reclamation prospects of the West in which the Government is now wisely engaged. If in your estimation I can be of any further use in connection with the Niagara situation, I shall be glad to be considered at your service.

Very respectfully, yours,

JOHN W. WILLIAMS.

730 ELLICOTT SQUARE, *January 9, 1912.*HON. WILLIAM SULZER,
Washington, D. C.

DEAR SIR: I hear that the State conservation commissioners are to be heard before your committee next Tuesday; is that a fact?

Now that the international joint commission is organized, I wish that the whole subject of the Niagara River waters could be referred to that commission; I talked with Chairman Tawney last Sunday here about it, and he was not sure of their jurisdiction; but if all agree upon a reference and join in the hearing there is no doubt of jurisdiction. As soon as rules of procedure are adopted hearings will be held, and I hope that we can get to work without delay.

Yours, very truly,

MILLARD F. BOWEN.

WERTHEIMER & DUFFY,
302-304 Broadway, New York, *February 6, 1912.*HON. WILLIAM SULZER,
Chairman Foreign Relations Committee, Washington, D. C.

MY DEAR SIR: As a citizen interested in the event, I write to bespeak your active and favorable interest in behalf of the bill which is now before your committee affecting the amount of the water which may be diverted at Niagara Falls for the purposes of power. My understanding is that this bill is intended to make effective the conditions of the recent treaty between the United States and Great Britain, and it is highly desirable that the present anomalous condition shall not be permitted to continue, but that the State of New York shall have the right to its just proportion of water, which means increased manufacturing facilities and the further development of the industries of our State. It is needless to suggest that your committee will properly protect the national interests and by proper provision secure the supervision of the War Department as to the due and proper exercise of the rights which the bill would confer. The writer trusts that your committee will promptly report the bill out, and feels that your record for disinterested public service will be enhanced by the vigorous championship of this fair and reasonable measure.

Very truly, yours,

JAS. KING DUFFY.

CLIFFORD B. HARMON & Co. (INC.),
*New York, February 6, 1912.*HON. WILLIAM SULZER,
Chairman Committee on Foreign Relations, Washington, D. C.

DEAR SIR: I understand that your committee is preparing to report out a bill determining the amount of water which may be diverted from Niagara River above the Falls for power purposes, thus making effective the recent

treaty between Great Britain and the United States. In our opinion, the maximum limitation of 20,000 cubic feet per second allowed by the treaty should be permitted to be diverted, in order that the industrial development of the State of New York may be enhanced as fully as possible. To this end it is desirable that the present Burton Act should not be continued, but that the proper officers of the State of New York should be given the right to determine to whom and in what amounts the water should be diverted, subject only to the supervision of the Secretary of War, who must necessarily have the right to determine whether or not the maximum is exceeded.

Trusting that you and the members of your committee will report out and support legislation of this character, as we believe the Conservation Commission of the State of New York are fully qualified to see that it is developed to the interests of resident users in this State, we are,

Very respectfully, yours,

CLIFFORD B. HARMON.

STATE OF NEW YORK, CONSERVATION COMMISSION,
Albany, January 17, 1912.

HON. WILLIAM SULZER,
Chairman Committee on Foreign Affairs, Washington, D. C.

DEAR MR. SULZER: We are in receipt of your valued favor of January 15 relative to your committee having fixed next Tuesday, the 23d instant, at 10 o'clock a. m., to hear the representatives of the State of New York, and thank you for having advised us.

Very truly, yours,

CONSERVATION COMMISSION,
By ALBERT E. HOYT,
Secretary to Commission.

COMMITTEE ON EXPENDITURES IN THE TREASURY DEPARTMENT,
UNITED STATES SENATE,
Washington, January 18, 1912.

HON. WILLIAM SULZER,
House of Representatives.

MY DEAR MR. SULZER: I have your kind invitation to appear before the committee in regard to Niagara Falls. I shall probably wish to say something on this subject, if you can afford opportunity before you come to a final conclusion. I would rather wait until the views of the others are presented.

Yours, very respectfully,

T. E. BURTON.

CHAMBER OF COMMERCE AND MANUFACTURERS' CLUB,
Buffalo, January 24, 1912.

HON. WILLIAM SULZER,
*Chairman Committee on Foreign Affairs,
House of Representatives, Washington, D. C.*

DEAR SIR: Referring to report in newspapers that the statement has been made to you that the public-service commission is unable to cope with the situation of charges by electrical companies for power, I desire to say that such is not the opinion of this body, and to express to you on the contrary that we believe that the machinery devised and in successful operation for the control of public-service corporations in general, and of the electrical situation in particular, is entirely adequate to deal with the subject, and I desire further to state that this is the general feeling in this community.

This body has originated and promoted an investigation into the changes made in Buffalo for electrical power, which is now pending. It desires to secure for its citizens a readjustment and in many cases a reduction of present charges, and it is satisfied with the tribunal established by law to decide the issue.

In conclusion, I beg leave earnestly and cordially to repeat the invitation extended to your committee to visit the Niagara frontier and gather the facts at first hand.

Yours, respectfully,

CHAMBER OF COMMERCE AND MANUFACTURERS' CLUB,
By EDGAR C. NEAL,
Vice President and Acting President.

LA SALLE, N. Y., *January 15, 1912.*

Hon. WM. SULZER, M. C.,

Chairman House Committee on Foreign Affairs, Washington, D. C.

MY DEAR SIR: I regret very much being unable to attend the hearing on Niagara power before your committee on Tuesday, but wish to present for your consideration a few facts regarding the situation.

The Hydraulic Power Co., of Niagara Falls, will undoubtedly make a strong effort at this session of Congress to secure for its own use nearly all the remaining 4,400 cubic feet of water permitted by the treaty. On the basis of present effective use of Niagara waters for power development this company undoubtedly has a paramount claim. I think, however, certain other things should be known before so valuable a grant of public property is made.

1. The Hydraulic Power Co. is a close corporation, all the stockholders (so far as known) being members of one family.

2. Its property rights were acquired at sheriff's sale at a price far below their actual value of cost.

3. It is also true that the location of its plant and character of its development have done more than all others to destroy the beauties of nature near the cataract.

4. The Hydraulic Power Co. can not now be earning less than 20 per cent net annually on its entire investment. This will be greatly increased if their appeal is now granted.

May I suggest and urge that before any additional water is granted to this or any other company its affairs be fully investigated and a sworn statement of its present earnings and profits be laid before Congress.

If this is done I believe if any additional grant is made it will be conditioned upon a liberal return to the Government as grantor of property in this case unquestionably worth many millions to the grantees.

Otherwise, and in any event, it seems to me it would be far wiser and more conducive to the public good if this request for additional water by private corporations was denied. In my judgment the only proper course is to remove all restrictions on the importation of power from Canada, and then use the remaining water on this side to develop the greatest possible amount of power. Having already fully presented my views along this line in a previous letter, it seems unnecessary to add more at this time.

Thanking you for the notice sent me and assuring you of my continued high regard, I am,

Very sincerely, yours,

JOHN W. WILLIAMS.

P. S.—Four thousand four hundred feet of water will develop, at Devils Hole, 109,000 horsepower; at Hydraulic Power Co., 85,000 horsepower; at Niagara Falls Power Co., 56,000 horsepower.

[Telegrams.]

ALBANY, N. Y., *January 17.*

Hon. WILLIAM SULZER,

*Chairman Committee on Foreign Affairs,**House of Representatives, Washington, D. C.:*

Please telegraph immediately day and hour to which your committee adjourned yesterday's hearing on Smith Niagara Falls bill.

NEW YORK STATE CONSERVATION COMMISSION.

WASHINGTON, D. C., *January 17, 1912.*

NEW YORK CONSERVATION COMMISSION,

Capitol, Albany, N. Y.:

Hearings on Niagara bills will be continued to-morrow morning and Saturday. Representatives of the State of New York will be heard next Tuesday morning, 10 o'clock. All information sent to Attorney General Carmody and the governor.

WM. SULZER.

WASHINGTON, D. C., *January 16, 1912.*Hon. JOHN A. DIX, *Albany, N. Y.:*

By arrangement with Attorney General Carmody the Committee on Foreign Affairs will hear the representatives of the State of New York on the Niagara Falls power bills next Tuesday morning, January 23, instant.

WM. SULZER.

WASHINGTON, D. C., *January 13, 1912.*

Hon. JOHN A. MASON,
Secretary to the Governor, Albany, N. Y.:

The hearing on the bills relating to the Niagara water power has been fixed by the Committee on Foreign Affairs for the 16th instant at 10 o'clock in the morning. The committee is anxious to hear the representatives of the State. If they can not be present on the 16th, I think I can get an adjournment until the later part of the week, say 18th or 19th, if this will be more convenient to the representatives of the State of New York. Please advise. Do not want to close the hearing until you have ample opportunity to be heard.

WM. SULZER.

STATE OF NEW YORK,
PUBLIC-SERVICE COMMISSION, SECOND DISTRICT,
Albany, January 12, 1912.

Hon. WILLIAM SULZER,
Chairman Committee on Foreign Affairs,

House of Representatives, Washington, D. C.

DEAR SIR: Your letter of January 10 in relation to a hearing to be held before your committee on Tuesday, the 16th instant, in relation to bills introduced by Congressmen Smith and Simmons relating to Niagara Falls has been received and a copy transmitted to each member of the commission.

Yours, very truly,

J. C. KENNY, *Secretary.*

AMERICAN CIVIC ASSOCIATION,
OFFICE OF THE PRESIDENT,
Harrisburg, Pa., January 12, 1912.

Hon. WILLIAM SULZER,
House of Representatives, Washington, D. C.

DEAR SIR: I am in receipt of a letter from your secretary under date of January 10 informing me of the hearing arranged for Tuesday morning next, January 16, at 10 o'clock, on bills pending before the Committee on Foreign Affairs, having relation to the use of the water of Niagara River for power production.

I thank you heartily for your courtesy in thus notifying me, and inform you with deep regret that it is impracticable for me to be present, owing to preceding engagements which, in justice to others, I can not break. I must be in Chicago on the morning of January 17, to do which it is necessary to leave Harrisburg on the afternoon of January 16, and I have several imperative engagements here in the meantime for Monday and Tuesday.

The matter upon which you are to pass is of very great importance. So far as I know the American Civic Association is the only organization likely to appear for the interests of the public, while there can be no doubt as to the presence on the occasion mentioned of those serving the special interests involved. I regret it has not been practicable to give a longer notice of the hearing.

Our secretary, Mr. Watrous, will be present, and I have no doubt will adequately represent the association, or at least as adequately as can be done under the circumstances of short notice. I have asked him by telephone to see that the bills which are to be considered are forwarded to me to-day.

I respectfully ask that the proceedings of the committee be not only reported as usual, but that provision be made for printing them. The legislation under

consideration has to do with matters of monumental interest and importance, and it is extremely desirable that access be had to the statements made at the hearing.

Yours, truly,

J. HORACE MCFARLAND,
President.

STATE OF NEW YORK,
OFFICE OF THE ATTORNEY GENERAL,
Albany, January 12, 1912.

HON. WILLIAM SULZER,
Member of Congress, Washington, D. C.

DEAR CONGRESSMAN: The State engineer and myself have just had a conference with the governor in regard to the proposed hearing upon the Niagara Falls Power Co. bill. The governor is sending you a telegram this afternoon suggesting the arrangement of a convenient date later when the conservation commission, the State engineer's department, and the attorney general's department may appear and make known the attitude of the State in regard to this bill. At present you know the whole question of water, power, conservation, and distribution is unsettled in this State. The conservation commission is working upon a policy which is not ready yet for adoption. It is necessary, therefore, for us to have some additional time for a further conference so that we may be prepared to announce the policy of the State while this bill is in committee. We will not ask for any adjournment that will embarrass Congress, but would like very much to have the matter deferred until possibly early in February. I simply suggest this date in a haphazard way, but think if you will fix a date along about that time we may be able to appear and express the policy of the State upon the subject involved in the bill.

I will deem this an official as well as a personal courtesy.

Yours, very respectfully,

THOMAS CARMODY, *Attorney General.*

To the Senate and House of Representatives:

The act of Congress approved June 29, 1906, "For the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes," committed certain duties to the Secretary of War which required extensive scientific investigations in order to obtain the information essential to intelligent action. In accordance with a recommendation of the Secretary of War contained in a letter to me on the 19th instant, I am transmitting herewith for the information of Congress reports of those investigations made by the officer in charge of the survey of the northern and north-western lakes, dated November 30, 1908, and September 21, 1909, which, as explained in the letter of the Secretary of War, also transmitted herewith, have hitherto been retained for the assistance of the executive branch of the Government.

A final report of the proceedings of the War Department in connection with the act referred to will be included in the forthcoming annual report.

WM. H. TAFT.

The WHITE HOUSE, *August 21, 1911.*

WAR DEPARTMENT,
Washington, August 19, 1911.

The PRESIDENT:

The act of Congress approved June 29, 1906, "For the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes," authorized the Secretary of War to grant permits for the diversion of water from the Niagara River for the creation of power to an aggregate amount of 15,000 cubic feet per second, and it also authorized him to grant permits for the diversion of additional amounts of water for power purposes after the approximate amount of 15,000 feet per second had been diverted for a period of not less than six months, but only to such additional

amount, "if any, as in connection with the amount diverted on the Canadian side shall not injure or interfere with the navigable capacity of said river, or its integrity and proper volume as a boundary stream, or the scenic grandeur of Niagara Falls."

It was early recognized that the information necessary for intelligent action upon matters of such complex character could only be acquired by extended observations of a precise and difficult nature, and the local study of the questions involved was therefore assigned soon after the approval of the act to the officer in charge of the survey of the northern and northwestern lakes, then conducting operations in the vicinity of Niagara Falls.

Comprehensive and valuable reports on the subject submitted by that officer November 30, 1908, and September 21, 1909, have hitherto been retained for the assistance of the executive branch of the Government, but as the provisions of the act of June 29, 1906, as extended by the joint resolution approved June 3, 1909, expired by limitation on the 29th of June last, and as the executive departments have no further duty to perform in connection with that act, I submit herewith the reports in question and recommend that they now be transmitted to Congress.

A final report of the proceedings under the provisions of the act referred to will be included with my forthcoming annual report.

Very respectfully,

HENRY L. STIMSON,
Secretary of War.

MEMORANDUM CONCERNING THE RESTRICTIONS ON THE USE OF NIAGARA POWER.

First. The campaign for the purpose of preserving the scenic grandeur of Niagara Falls was begun by the American Civic Association in the summer of 1905. The association asserted that Niagara Falls had been seriously injured by the power companies, and unless legislation was enacted by Congress the Falls would speedily be entirely ruined. The annual meeting of the association was held at Cleveland in the autumn of 1905, and the association secured the support of Mr. Burton, then Member of Congress from that district. The President of the United States in his annual message to Congress briefly recommended that legislation be enacted to preserve the Falls from destruction. The association procured the signatures, it is said, of 100,000 people asking for such legislation. Soon after the meeting of Congress Mr. Burton introduced his bill, entitled "An act for the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes." Numerous hearings were held before the Rivers and Harbors Committee, of which Mr. Burton was then chairman, at which the constitutionality of the proposed legislation, the necessity for it, and the form of it were elaborately argued.

The bill was passed and approved by the President on June 29, 1906. It was to remain in force for three years, but on March 3, 1909, it was, by joint resolution, extended for two years.

Unless further extended it will expire by limitation on June 29, 1911.

Second. Section 4 of the act requested the President of the United States to negotiate a treaty with the Government of Great Britain, providing "for such regulation and control of the waters of Niagara River and its tributaries as will preserve the scenic grandeur of Niagara Falls, and of the rapids in said river." Such a treaty was negotiated, ratified by the Senate on March 3, 1909, ratified by Great Britain in March, 1910, and proclaimed by the President to be in force from and after May 13, 1910.

Third. The treaty is the supreme law of the land. The Burton law is in some respects inconsistent with the treaty.

The Burton law restricts the diversion of water on the American side to 15,600 cubic feet per second; the treaty raises the limit of restriction to 20,000 cubic feet per second.

The Burton law places restrictions upon the amount of power which can be transmitted into the United States from Canada; the treaty makes no restriction on the transmission of power from Canada into the United States.

Under these circumstances Mr. Alexander, Member of Congress from Buffalo, introduced a bill in June, 1910, amending the Burton law so as to make it

comply with the terms of the treaty, and extending the operations of the Burton law thus amended so long as the treaty remains in force. The Alexander bill increases the amount of water which can be diverted on the American side from 15,600 cubic feet per second to 20,000 cubic feet per second; and it leaves out of the bill all restrictions upon the transmission of power from Canada into the United States. In other respects the original Burton law is not changed. The original law was intended, in pursuance of its purpose to preserve Niagara Falls, to prevent any new power projects from being started at Niagara; and it therefore stipulated that the permits, which under the law the Secretary of War was authorized to issue for the diversion of water on the American side, should be issued only to those individuals, companies, or corporations which were at that time actually producing power "from the waters of said river, or its tributaries, in the State of New York, or from the Erie Canal." The original law also prescribed penalties of fine and imprisonment for violations of the law, and gave jurisdiction over such cases to the United States circuit court. These provisions in identical language are repeated in the Alexander bill, which is simply the Burton law amended to accord with the treaty.

This bill failed to pass. On April 20, 1911, Senator Root introduced a bill [S. 1490] to give effect to the treaty, and the bill is now pending.

Fourth. Prior to the introduction of the Burton law two American and three Canadian corporations, acting on the faith of laws enacted and contracts made by and with the State of New York, the Province of Ontario, and the Dominion of Canada, had undertaken the construction of five extensive projects for the development of power, three of them on the Canadian and two of them on the American side. At that time upward of \$30,000,000 had been expended on these projects, which were all of them incomplete; but relying on the rights granted to them by the public authorities on both sides of the river, the companies had made their plans and entered into contracts, which would have entailed enormous financial loss, if not entire ruin, unless the companies had been permitted to carry out these projects. It was quite clearly shown in the hearings before the Burton committee that the diversion of the water necessary to carry out to their full extent the projects which then were only partially completed, would not result in any serious injury to the scenic grandeur of Niagara Falls. Nevertheless the Burton law only provided for the partial completion of these projects. Its restrictions upon the diversion of water on the American side and the transmission of power from the Canadian side were such that the companies would only have been able partially to complete their projects. This injustice and inequity were remedied by the treaty, which was the result of negotiations extending over nearly two years in which the whole subject was thoroughly examined with the aid of Government experts on both sides. The treaty carries out the original purpose of the Burton Act to preserve the scenic grandeur of Niagara Falls by preventing any new power enterprises, but it permits the companies which had expended such enormous sums of money to carry out the plans which they had formed on the faith of the law as it stood when such plans were made. These plans contemplated the use of a small portion of the waters of Niagara for the delivery of cheap electrical power to the people of central and western New York, nearly 2,500,000 in number, occupying a broad belt more than 200 miles in length between Utica and Dunkirk. Buffalo and the entire Niagara frontier from Niagara Falls to the steel industries at Lackawanna, as well as the cities of Rochester, Syracuse, Auburn, Lockport, Jamestown, Dunkirk, Batavia, and many smaller communities are vitally interested in seeing that this treaty is carried into effect, and that it should no longer be practically nullified by the Burton law in its present form.

Unless the treaty is given full effect the industries of central and western New York will be seriously crippled and their development arrested, because the companies which now have transmission lines of a total length of 500 miles, supplying Niagara power to these industries, have about reached the limit of the power which they can obtain unless the Alexander bill is enacted into law.

Fifth. The average flow of the Niagara River, as determined by the observations of the United States engineers extending over a period of 51 years, is 212,000 cubic feet per second. The treaty authorizes 20,000 cubic feet to be taken out above the Falls on the American side and 36,000 cubic feet on the Canadian side, a total of 56,000 cubic feet, or about one-fourth of the entire amount.

The amount of power which can be produced by 1 cubic foot per second varies among the different power companies from 9 horsepower to 17 horse-

power, depending upon where the water is taken and the nature of the installation. The average is a little less than 13 horsepower per cubic foot. The total amount of power which could be developed at Niagara on the basis of using all of the average flow of the river is therefore about 2,750,000 horsepower, and the amount of power that can be developed under the restrictions imposed by the treaty will be less than 700,000 horsepower. The present installation at the Falls is approximately 400,000 horsepower, which will shortly be increased to about 450,000 horsepower.

Sixth. Elaborate measurements taken by the United States engineers in 1908, at a time when the American power houses were all temporarily shut down, show that the difference in depth in the water passing over the American Fall when the power houses are in operation and when not a wheel is turning is only a fraction of an inch. This is determined by minute and complicated scientific measurements. It is not visible to the eye, and it has no effect upon the scenic grandeur of Niagara Falls.

In Exhibit D are reproductions of photographs of the Falls taken in 1870, 1885, and 1888, when there were no electric-power plants; in 1900 and 1905, when the amount of power in use was about 100,000 horsepower; and in 1910, when the amount was more than 330,000 horsepower. These photographs show that under similar conditions, in spite of an increasing diversion of water for power purposes, the appearance of the Falls presents no change which can be detected by the eye. It can be confidently asserted that, under the restrictions imposed by the treaty, it will require scientific measurements to detect the change in the depth of the water at the Falls, but that this change will not be visible to the eye. The scenic grandeur of Niagara Falls will be preserved unimpaired.

Seventh. The production of 1 horsepower continuously for 24 hours throughout every day in the year requires the consumption, under the most improved and modern apparatus, of about 13 tons of coal per annum. The treaty has decided that about 700,000 horsepower can be taken from Niagara without affecting its scenic grandeur. To produce this amount of power by coal would require about 8,500,000 tons of coal per annum. This is a comparatively small portion of the 450,000,000 tons of coal consumed in the United States every year, but it is still worth saving. There is absolutely no destruction of natural resources in the use of falling water for producing power. The eternal laws of gravity, evaporation, and precipitation form a cycle in which the sun's heat is the ultimate source of energy; and in this cycle the loss of such energy is inappreciable, and can not be measured by any instruments or methods known to man.

The scenic grandeur of Niagara appeals to the imagination as a manifestation of overwhelming force. The utilization of a small portion of this titanic force by the wit and brain of man for the benefit of his fellow men equally appeals to the imagination; and the thousands of visitors who annually go through the different power houses are quite as much impressed by the evidences which they there see of mechanical ingenuity and of the control by man over gigantic force as they are by the spectacle of this gigantic force going to waste.

Eighth. The treaty runs for five years from May, 1910, and thereafter until terminated by either country on one year's notice. It has determined and fixed, after the most careful consideration, the restrictions which, so long as the treaty remains in force, are placed upon the use of Niagara water for power purposes.

Under the contracts made with the Canadian authorities by the Canadian power companies one-half of the power generated in Canada can be transmitted to the United States. The Burton law undertakes to nullify these contracts by limiting the amount of power which could be brought in from Canada. The treaty, recognizing that no harm could be done to Canada and much good could be done to the United States by bringing in this surplus power from Canada, placed no restrictions upon the transmission of power from Canada, so that the manufacturers of western New York might have the benefit of all the power which, under their agreements with the Canadian authorities, the Canadian power companies can send here.

It only remains to enact such legislation as will give full force and effect to the treaty.

FRANCIS V. GREENE.

EXHIBIT A.

THE BURTON LAW.

AN ACT For the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes. [Public—No. 367.]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the diversion of water from Niagara River or its tributaries, in the State of New York, is hereby prohibited, except with the consent of the Secretary of War as hereinafter authorized in section 2 of this act: *Provided*, That this prohibition shall not be interpreted as forbidding the diversion of the waters of the Great Lakes or of Niagara River for sanitary or domestic purposes, or for navigation, the amount of which may be fixed from time to time by the Congress of the United States, or by the Secretary of War of the United States under its direction.

SEC. 2. That the Secretary of War is hereby authorized to grant permits for the diversion of water in the United States from said Niagara River or its tributaries for the creation of power to individuals, companies, or corporations which are now actually producing power from the waters of said river, or its tributaries, in the State of New York, or from the Erie Canal; also permits for the transmission of power from the Dominion of Canada into the United States, to companies legally authorized therefor, both for diversion and transmission, as hereinafter stated, but permits for diversion shall be issued only to the individuals, companies, or corporations as aforesaid, and only to the amount now actually in use or contracted to be used in factories the buildings for which are now in process of construction, not exceeding to any one individual, company, or corporation as aforesaid a maximum amount of 8,000 cubic feet per second, and not exceeding to all individuals, companies, or corporations as aforesaid an aggregate amount of 15,000 cubic feet per second; but no revocable permits shall be issued by the said Secretary under the provisions hereafter set forth for the diversion of additional amounts of water from the said river or its tributaries until the approximate amount for which permits may be issued as above, to wit, 15,000 cubic feet per second, shall for a period of not less than six months have been diverted from the waters of said river or its tributaries, in the State of New York: *Provided*, That the said Secretary, subject to the provisions of section 5 of this act, under the limitations relating to time above set forth, is hereby authorized to grant revocable permits from time to time to such individuals, companies, or corporations, or their assigns, for the diversion of additional amounts of water from the said river or its tributaries to such amount, if any, as, in connection with the amount diverted on the Canadian side, shall not injure or interfere with the navigable capacity of said river or its integrity and proper volume as a boundary stream or the scenic grandeur of Niagara Falls; and that the quantity of electrical power which may by permits be allowed to be transmitted from the Dominion of Canada into the United States shall be 160,000 horsepower: *Provided further*, That the said Secretary, subject to the provisions of section 5 of this act, may issue revocable permits for the transmission of additional electrical power so generated in Canada, but in no event shall the amount included in such permits, together with the said 160,000 horsepower and the amount generated and used in Canada, exceed 350,000 horsepower: *Provided always*, That the provisions herein permitting diversions and fixing the aggregate horsepower herein permitted to be transmitted into the United States as aforesaid are intended as a limitation on the authority of the Secretary of War, and shall in no wise be construed as a direction to said Secretary to issue permits, and the Secretary of War shall make regulations preventing or limiting the diversion of water and the admission of electrical power as herein stated; and the permits for the transmission of electrical power issued by the Secretary of War may specify the persons, companies, or corporations by whom the same shall be transmitted and the persons, companies, or corporations to whom the same shall be delivered.

SEC. 3. That any person, company, or corporation diverting water from the said Niagara River or its tributaries, or transmitting electrical power into the United States from Canada, except as herein stated, or violating any of the provisions of this act, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding \$2,500 nor less than \$500, or by imprisonment (in the case of a natural person) not exceeding one year, or by both such punishments, in the discretion of the court. And, further, the removal of any structures or parts of structures erected in violation of

this act, or any construction incidental to or used for such diversion of water or transmission of power as is herein prohibited, as well as any diversion of water or transmission of power in violation hereof, may be enforced or enjoined at the suit of the United States by any circuit court having jurisdiction in any district in which the same may be located, and proper proceedings to this end may be instituted under the direction of the Attorney General of the United States.

SEC. 4. That the President of the United States is respectfully requested to open negotiations with the Government of Great Britain for the purpose of effectually providing, by suitable treaty with said Government, for such regulation and control of the waters of Niagara River and its tributaries as will preserve the scenic grandeur of Niagara Falls and of the rapids in said river.

SEC. 5. That the provisions of this act shall remain in force for three years from and after date of its passage, at the expiration of which time all permits granted hereunder by the Secretary of War shall terminate unless sooner revoked, and the Secretary of War is hereby authorized to revoke any or all permits granted by him by authority of this act, and nothing herein contained shall be held to confirm, establish, or confer any rights heretofore claimed or exercised in the diversion of water or the transmission of power.

SEC. 6. That for accomplishing the purposes detailed in this act the sum of \$50,000, or so much thereof as may be necessary, is hereby appropriated from any moneys in the Treasury not otherwise appropriated.

SEC. 7. That the right to alter, amend, or repeal this act is hereby expressly reserved.

Approved, June 29, 1906.

JOINT RESOLUTION Extending the operation of an act for the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes. [Public—H. J. Res. 262.]

Whereas the provisions of the act entitled "An act for the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes," approved June 29, 1906, will expire by limitation on June 29, 1910; and

Whereas a date for the termination of the operation of said act was provided therein, but with a view to the more permanent settlement of the questions involved by a treaty with Great Britain, and by further legislation appropriate to the situation and such treaty not having been negotiated, it is desirable that the provisions of said act should be continued until such permanent settlement can be made: Therefore be it

Resolved, etc., That the provisions of the aforesaid act be, and they are hereby, extended for two years from June 29, 1909, being the date of the expiration of the operation of said act, save in so far as any portion thereof may be found inapplicable or already complied with.

Approved, March 3, 1909.

EXHIBIT B.

TREATY BETWEEN THE UNITED STATES AND GREAT BRITAIN—BOUNDARY WATERS BETWEEN THE UNITED STATES AND CANADA.

[Signed at Washington, January 11, 1909. Ratification advised by the Senate March 3, 1909. Ratified by the President April 1, 1909. Ratified by Great Britain March 31, 1910. Ratifications exchanged at Washington, May 5, 1910. Proclaimed May 13, 1910.]

A proclamation by the President of the United States of America:

Whereas a treaty between the United States of America and His Majesty the King of United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, Emperor of India, to prevent disputes regarding the use of boundary waters and to settle all questions which are now pending between the United States and the Dominion of Canada involving the rights, obligations, or interests of either in relation to the other or to the inhabitants of the other, along their common frontier, and to make provision for the adjustment and settlement of all such questions as may hereafter arise, was concluded and signed by their respective plenipotentiaries at Washington on the 11th day of January, 1909, the original of which treaty is word for word as follows:

The United States of America and His Majesty the King of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the seas, Emperor of India, being equally desirous to prevent disputes regarding the use of boundary waters and to settle all questions which are now pending between the United States and the Dominion of Canada involving the rights, obligations, or interests of either in relation to the other or to the inhabitants of the other, along their common frontier, and to make provision for the adjustment and settlement of all such questions as may hereafter arise, have resolved to conclude a treaty in furtherance of these ends, and for that purpose have appointed as their respective plenipotentiaries:

The President of the United States of America; Elihu Root, Secretary of State of the United States; and

His Britannic Majesty, the Right Hon. James Bryce, O. M., his ambassador extraordinary and plenipotentiary at Washington;

Who, after having communicated to one another their full powers, found in good and due form, have agreed upon the following articles:

PRELIMINARY ARTICLE. For the purposes of this treaty boundary waters are defined as the waters from main shore to main shore of the lakes and rivers and connecting waterways, or the portions thereof, along which the international boundary between the United States and the Dominion of Canada passes, including all bays, arms, and inlets thereof, but not including tributary waters which in their natural channels would flow into such lakes, rivers, and waterways, or waters flowing from such lakes, rivers, and waterways, or the waters of rivers flowing across the boundary.

ARTICLE I. The high contracting parties agree that the navigation of all navigable boundary waters shall forever continue free and open for the purposes of commerce to the inhabitants and to the ships, vessels, and boats of both countries equally, subject, however, to any laws and regulations of either country, within its own territory, not inconsistent with such privilege of free navigation and applying equally and without discrimination to the inhabitants, ships, vessels, and boats of both countries.

It is further agreed that so long as this treaty shall remain in force this same right of navigation shall extend to the waters of Lake Michigan and to all canals connecting boundary waters and now existing or which may hereafter be constructed on either side of the line. Either of the high contracting parties may adopt rules and regulations governing the use of such canals within its own territory and may charge tolls for the use thereof, but all such rules and regulations and all tolls charged shall apply alike to the subjects or citizens of the high contracting parties and the ships, vessels, and boats of both of the high contracting parties, and they shall be placed on terms of equality in the use thereof.

ART. II. Each of the high contracting parties reserves to itself or to the several State governments on the one side and the Dominion or Provincial governments on the other, as the case may be, subject to any treaty provisions now existing with respect thereto, the exclusive jurisdiction and control over the use and diversion, whether temporary or permanent, of all waters on its own side of the line which in their natural channels would flow across the boundary or into boundary waters; but it is agreed that any interference with or diversion from their natural channel of such waters on either side of the boundary, resulting in any injury on the other side of the boundary, shall give rise to the same rights and entitle the injured parties to the same legal remedies as if such injury took place in the country where such diversion or interference occurs; but this provision shall not apply to cases already existing or to cases expressly covered by special agreement between the parties hereto.

It is understood, however, that neither of the high contracting parties intends by the foregoing provision to surrender any right which it may have to object to any interference with or diversions of waters on the other side of the boundary the effect of which would be productive of material injury to the navigation interests on its own side of the boundary.

ART. III. It is agreed that, in addition to the uses, obstructions, and diversions heretofore permitted or hereafter provided for by special agreement between the parties hereto, no further or other uses or obstructions or diversions, whether temporary or permanent, of boundary waters on either side of the line, affecting the natural level or flow of boundary waters on the other side of the line, shall be made except by authority of the United States or the Dominion of Canada within their respective jurisdictions and with the approval, as hereinafter provided, of a joint commission, to be known as the International Joint Commission.

The foregoing provisions are not intended to limit or interfere with the existing rights of the Government of the United States on the one side and the Government of the Dominion of Canada on the other, to undertake and carry on governmental works in boundary waters for the deepening of channels, the construction of breakwaters, the improvement of harbors, and other governmental works for the benefit of commerce and navigation, provided that such works are wholly on its own side of the line and do not materially affect the level or flow of the boundary waters on the other, nor are such provisions intended to interfere with the ordinary use of such waters for domestic and sanitary purposes.

ART. IV. The high contracting parties agree that, except in cases provided for by special agreement between them, they will not permit the construction or maintenance on their respective sides of the boundary of any remedial or protective works or any dams or other obstructions in waters flowing from boundary waters or in waters at a lower level than the boundary in rivers flowing across the boundary, the effect of which is to raise the natural level of waters on the other side of the boundary, unless the construction or maintenance thereof is approved by the aforesaid international joint commission.

It is further agreed that the waters herein defined as boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other.

ART. V. The high contracting parties agree that it is expedient to limit the diversion of waters from the Niagara River so that the level of Lake Erie and the flow of the stream shall not be appreciably affected. It is the desire of both parties to accomplish this object with the least possible injury to investments which have already been made in the construction of power plants on the United States side of the river under grants of authority from the State of New York, and on the Canadian side of the river under licenses authorized by the Dominion of Canada and the Province of Ontario.

So long as this treaty shall remain in force, no diversion of the waters of the Niagara River above the Falls from the natural course and stream thereof shall be permitted except for the purposes and to the extent hereinafter provided.

The United States may authorize and permit the diversion within the State of New York of the waters of said river above the Falls of Niagara, for power purposes, not exceeding in the aggregate a daily diversion at the rate of 20,000 cubic feet of water per second.

The United Kingdom, by the Dominion of Canada, or the Province of Ontario, may authorize and permit the diversion within the Province of Ontario of the waters of said river above the Falls of Niagara, for power purposes, not exceeding in the aggregate a daily diversion at the rate of 36,000 cubic feet of water per second.

The prohibitions of this article shall not apply to the diversion of water for sanitary or domestic purposes, or for the service of canals for the purposes of navigation.

ART. VI. The high contracting parties agree that the St. Mary and Milk Rivers and their tributaries (in the State of Montana and the Provinces of Alberta and Saskatchewan) are to be treated as one stream for the purposes of irrigation and power, and the waters thereof shall be apportioned equally between the two countries, but in making such equal apportionment, more than half may be taken from one river and less than half from the other by either country so as to afford a more beneficial use to each. It is further agreed that in the division of such waters during the irrigation season, between the 1st of April and 31st of October, inclusive, annually, the United States is entitled to a prior appropriation of 500 cubic feet per second of the waters of the Milk River, or so much of such amount as constitutes three-fourths of its natural flow, and that Canada is entitled to a prior appropriation of 500 cubic feet per second of the flow of St. Mary River, or so much of such amount as constitutes three-fourths of its natural flow.

The channel of the Milk River in Canada may be used at the convenience of the United States for the conveyance, while passing through Canadian territory, of waters diverted from the St. Mary River. The provisions of Article II of this treaty shall apply to any injury resulting to property in Canada from the conveyance of such waters through the Milk River.

The measurement and apportionment of the water to be used by each country shall from time to time be made jointly by the properly constituted reclamation officers of the United States and the properly constituted irrigation officers of His Majesty under the direction of the international joint commission.

ART. VII. The high contracting parties agree to establish and maintain an international joint commission of the United States and Canada composed of six commissioners, three on the part of the United States appointed by the President thereof, and three on the part of the United Kingdom appointed by His Majesty on the recommendation of the governor in council of the Dominion of Canada.

ART. VIII. This international joint commission shall have jurisdiction over and shall pass upon all cases involving the use or obstruction or diversion of the waters with respect to which under Articles III and IV of this treaty the approval of this commission is required, and in passing upon such cases the commission shall be governed by the following rules or principles, which are adopted by the high contracting parties for this purpose:

The high contracting parties shall have, each on its own side of the boundary, equal and similar rights in the use of the waters hereinbefore defined as boundary waters.

The following order of precedence shall be observed among the various uses enumerated hereinafter for these waters, and no use shall be permitted which tends materially to conflict with or restrain any other use which is given preference over it in this order of precedence:

(1) Uses for domestic and sanitary purposes.

(2) Uses for navigation, including the service of canals for the purposes of navigation.

(3) Uses for power and for irrigation purposes.

The foregoing provisions shall not apply to or disturb any existing uses of boundary waters on either side of the boundary.

The requirement for an equal division may in the discretion of the commission be suspended in cases of temporary diversions along boundary waters at points where such equal division can not be made advantageously on account of local conditions, and where such diversion does not diminish elsewhere the amount available for use on the other side.

The commission in its discretion may make its approval in any case conditional upon the construction of remedial or protective works to compensate so far as possible for the particular use or diversion proposed, and in such cases may require that suitable and adequate provision, approved by the commission, be made for the protection and indemnity against injury of any interests on either side of the boundary.

In cases involving the elevation of the natural level of waters on either side of the line as a result of the construction or maintenance on the other side of remedial or protective works or dams or other obstructions in boundary waters or in waters flowing therefrom or in waters below the boundary in rivers flowing across the boundary, the commission shall require, as a condition of its approval thereof, that suitable and adequate provision, approved by it, be made for the protection and indemnity of all interests on the other side of the line which may be injured thereby.

The majority of the commissioners shall have power to render a decision. In case the commission is evenly divided upon any question or matter presented to it for decision, separate reports shall be made by the commissioners on each side to their own Government. The high contracting parties shall thereupon endeavor to agree upon an adjustment of the question or matter of difference, and if an agreement is reached between them, it shall be reduced to writing in the form of a protocol, and shall be communicated to the commissioners, who shall take such further proceedings as may be necessary to carry out such agreement.

ART. IX. The high contracting parties further agree that any other questions or matters of difference arising between them involving the rights, obligations, or interests of either in relation to the other or to the inhabitants of the other, along the common frontier between the United States and the Dominion of Canada, shall be referred from time to time to the international joint commission for examination and report, whenever either the Government of the United States or the Government of the Dominion of Canada shall request that such questions or matters of difference be so referred.

The international joint commission is authorized in each case so referred to examine into and report upon the facts and circumstances of the particular questions and matters referred, together with such conclusions and recommendations as may be appropriate, subject, however, to any restrictions or exceptions which may be imposed with respect thereto by the terms of the reference.

Such reports of the commission shall not be regarded as decisions of the questions or matters so submitted, either on the facts or the law, and shall in no way have the character of an arbitral award.

The commission shall make a joint report to both Governments in all cases in which all or a majority of the commissioners agree, and in case of disagreement the minority may make a joint report to both Governments or separate reports to their respective Governments.

In case the commission is evenly divided upon any question or matter referred to it for report, separate reports shall be made by the commissioners on each side to their own Government.

ART. X. Any questions or matters of difference arising between the high contracting parties involving the rights, obligations, or interests of the United or of the Dominion of Canada, either in relation to each other or to their respective inhabitants, may be referred for decision to the international joint commission by the consent of the two parties, it being understood that on the part of the United States any such action will be by and with the advice and consent of the Senate, and on the part of His Majesty's Government with the consent of the Governor General in Council. In each case so referred, the said commission is authorized to examine into and report upon the facts and circumstances of the particular questions and matters referred, together with such conclusions and recommendations as may be appropriate, subject, however, to any restrictions or exceptions which may be imposed with respect thereto by the terms of the reference.

A majority of the said commission shall have power to render a decision or finding upon any of the questions or matters so referred.

If the said commission is equally divided or otherwise unable to render a decision or finding as to any questions or matters so referred, it shall be the duty of the commissioners to make a joint report to both Governments, or separate reports to their respective Governments, showing the different conclusions arrived at with regard to the matters or questions so referred, which questions or matters shall thereupon be referred for decision by the high contracting parties to an umpire chosen in accordance with the procedure prescribed in the fourth, fifth, and sixth paragraphs of Article XLV of The Hague convention for the pacific settlement of international disputes, dated October 18, 1907. Such umpires shall have power to render a final decision with respect to those matters and questions so referred on which the commission failed to agree.

ART. XI. A duplicate original of all decisions rendered and joint reports made by the commission shall be transmitted to and filed with the Secretary of State of the United States and the Governor General of the Dominion of Canada, and to them shall be addressed all communications of the commission.

ART. XII. The International Joint Commission shall meet and organize at Washington promptly after the members thereof are appointed, and when organized the commission may fix such times and places for its meetings as may be necessary, subject at all times to special call or direction by the two Governments. Each commissioner, upon the first joint meeting of the commission after his appointment, shall, before proceeding with the work of the commission, make and subscribe a solemn declaration in writing that he will faithfully and impartially perform the duties imposed upon him under this treaty, and such declaration shall be entered on the records of the proceedings of the commission.

The United States and Canadian sections of the commission may each appoint a secretary, and these shall act as joint secretaries of the commission at its joint sessions, and the commission may employ engineers and clerical assistants from time to time as it may deem advisable. The salaries and personal expenses of the commission and of the secretaries shall be paid by their respective Governments, and all reasonable and necessary joint expenses of the commission incurred by it shall be paid in equal moieties by the high contracting parties.

The commission shall have power to administer oaths to witnesses and to take evidence on oath whenever deemed necessary in any proceeding or inquiry or matter within its jurisdiction under this treaty, and all parties interested therein shall be given convenient opportunity to be heard, and the high contracting parties agree to adopt such legislation as may be appropriate and necessary to give the commission the powers above mentioned on each side of the boundary, and to provide for the issue of subpoenas and for compelling the attendance of witnesses in proceedings before the commission. The commis-

slon may adopt such rules of procedure as shall be in accordance with justice and equity, and may make such examination in person and through agents or employees as may be deemed advisable.

ART. XIII. In all cases where special agreements between the high contracting parties hereto are referred to in the foregoing articles such agreements are understood and intended to include not only direct agreements between the high contracting parties, but also any mutual arrangement between the United States and the Dominion of Canada expressed by concurrent or reciprocal legislation on the part of Congress and the Parliament of the Dominion.

ART. XIV. The present treaty shall be ratified by the President of the United States of America, by and with the advice and consent of the Senate thereof, and by His Britannic Majesty. The ratifications shall be exchanged at Washington as soon as possible, and the treaty shall take effect on the date of the exchange of its ratifications. It shall remain in force for five years, dating from the day of exchange of ratifications, and thereafter until terminated by 12 months' written notice given by either high contracting party to the other.

In faith whereof the respective plenipotentiaries have signed this treaty in duplicate and have hereunto affixed their seals.

Done at Washington the eleventh day of January, in the year of our Lord one thousand nine hundred and nine.

ELIHU ROOT. [SEAL.]
JAMES BRYCE. [SEAL.]

And whereas the Senate of the United States by their resolution of March 3, 1909 (two-thirds of the Senators present concurring therein), did advise and consent to the ratification of the said treaty with the following understanding, to wit:

Resolved further (as a part of this ratification), That the United States approves this treaty with the understanding that nothing in this treaty shall be construed as affecting or changing any existing territorial or riparian rights in the water, or rights of the owners of lands under water, on either side of the international boundary at the rapids of the St. Mary's River at Sault Ste. Marie in the use of the waters flowing over such lands, subject to the requirements of navigation in boundary waters and of navigation canals, and without prejudice to the existing right of the United States and Canada each to use the waters of the St. Mary's River within its own territory; and, further, that nothing in this treaty shall be construed to interfere with the drainage of wet, swamp, and overflowed lands into streams flowing into boundary waters, and that this interpretation will be mentioned in the ratification of this treaty as conveying the true meaning of the treaty and will, in effect, form part of the treaty.

And whereas the said understanding has been accepted by the Government of Great Britain and the ratifications of the two Governments of the said treaty were exchanged in the city of Washington on the 5th day of May, 1910:

Now therefore, be it known that I, William Howard Taft, President of the United States of America, have caused the said treaty and the said understanding as forming a part thereof to be made public to the end that the same and every article and clause thereof may be observed and fulfilled with good faith by the United States and the citizens thereof.

In testimony whereof I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the city of Washington this thirteenth day of May, in the year of our Lord one thousand nine hundred and ten, and of the independence of the United States of America the one hundred and thirty-fourth.

By the President:

WM. H. TAFT.

[SEAL.] P. C. KNOX,
Secretary of State.

PROTOCOL OF EXCHANGE.

On proceeding to the exchange of the ratifications of the treaty signed at Washington on January 11, 1909, between the United States and Great Britain, relating to boundary waters and questions arising along the boundary between the United States and the Dominion of Canada, the undersigned plenipotentiaries, duly authorized thereto by their respective Governments, hereby de-

clare that nothing in this treaty shall be construed as affecting or changing any existing territorial or riparian rights in the water, or rights of the owners of lands under water, on either side of the international boundary at the rapids of the St. Mary's River at Sault Ste. Marie in the use of the waters flowing over such lands subject to the requirements of navigation in boundary waters and of navigation canals and without prejudice to the existing right of the United States and Canada each to use the waters of the St. Mary's River within its own territory; and, further, that nothing in this treaty shall be construed to interfere with the drainage of wet, swamp, and overflowed lands into streams flowing into boundary waters, and also that this declaration shall be deemed to have equal force and effect as the treaty itself and to form an integral part thereto.

The exchange of ratifications then took place in the usual form.

In witness whereof they have signed the present protocol of exchange and have affixed their seals thereto.

Done at Washington this 5th day of May, 1910.

PHILANDER C. KNOX. [SEAL.]
JAMES BRYCE. [SEAL.]

[H. R. 7694, Sixty-second Congress, first session. In the House of Representatives, April 27, 1911. Mr. Simmons introduced the following bill, which was referred to the committee on Foreign Affairs and ordered to be printed.]

A BILL To give effect to the fifth article of the treaty between the United States and Great Britain, signed January 11, 1909.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That no water shall be diverted from the Niagara River above the Falls of Niagara within the State of New York for power purposes without the written consent of the Secretary of War, who is hereby authorized to give such consent, by revocable permits, to persons, companies, or corporations having authority from the said State to make such diversions, and to a total amount not exceeding in the aggregate the amount allowed by the treaty between the United States and Great Britain, signed at Washington on the 11th day of January in the year 1909: *Provided,* That no such permit shall be granted allowing diversions of water exceeding in the aggregate 15,000 cubic feet per second without the consent of the State of New York and of the commissioners on the part of the United States in the international joint commission provided for by said treaty.

Every diversion of water in violation of the foregoing provisions shall be a misdemeanor punishable by a fine not exceeding \$2,500, or by imprisonment not exceeding one year, or both, in the discretion of the court.

The Secretary of War shall make regulations for preventing the diversion of water from the Niagara River above the Falls of Niagara in excess of the amounts consented to by him pursuant to the said treaty and to this act, and all permits for the diversion of water granted under the act entitled "An act for the control and regulation of the waters of Niagara River, for the preservation of Niagara Falls, and for other purposes," approved June 29, 1906, shall continue in force until revoked by the Secretary of War or superseded by other permits issued by him.

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11.

62nd CONGRESS—2nd SESSION

Transcript from Report of Hearings before
House Committee on Foreign Affairs—
The Hon. William Sulzer of New York,
Chairman—Proceedings of Jan. 18th, 1912.

IN RE NIAGARA FALLS

Statement of Rome G. Brown for Niagara
Falls Power Co. and Canadian Niagara
Power Co.

FORENOON SESSION—JANUARY 18, 1912.

The Chairman. We will now hear from Mr. Brown.
Mr. Brown, will you state your name, your residence,
and whom you represent?

Mr. Rome G. Brown. I am from Minneapolis, Minnesota. I represent here the Niagara Falls Power Company and the Canadian Niagara Power Company.

Mr. Difenderfer. Of which Mr. Wickes is President?

Mr. Brown. Of which Mr. Edward A. Wickes is president. Gentlemen, I appreciate the necessity of brevity in statements. I have tried to arrange in as brief a way as possible certain matters for consideration which I believe are important for you to have in mind, in regard to legislation in carrying out this treaty. In going over my summary I shall be very glad to answer any questions that I am capable of answering, but if you will be patient it may be that I shall anticipate your questions in presenting my statement.

I will say that when I left Minnesota the thermometer was forty below zero but since I came down here I have caught a cold, which, like some Congressmen, is not only both reactionary and insurgent, but it is also progressive. (Laughter.)

Gentlemen, the concrete question before you, as I understand it, is, what shall be the nature of a legislative act under the treaty of 1909 to take the place of the "Burton Act," so-called. Now, in making up your minds upon the nature of that act, you would have in mind, and wish to have in mind and consider, certain propositions. You would want to have in mind what if any—I am not stating them now—what, if any, are or may be the legal rights of those who have made investments at the Falls. Even if you did not regard fully their legal rights, at least you would want to consider what, if any, might be the equities of those people who have made their investments.

Mr. Difenderfer. Who gave them their legal rights?

Mr. Brown. I am coming to that; I said "*if any*." You would want also to consider what rights and equities the people generally in the locality of the Falls and the general public, as represented by the National and State Governments, might have. Now, then, in order to have

in mind what are,—or if you should not agree with me, what *might be claimed* to be,—the legal rights or the equities of the parties, as well as what might be the equities, rights and interests of the public, it has seemed to be necessary, it certainly might be helpful, to bring ourselves down to date by a brief summary of what has taken place prior to this time; and let me give you the summary. I will try not to be prolix and some of the details of my argument I will hand to the reporter to be inserted as part of my statement.

No one will disagree with me when I say that the important interests that we have to protect here are the interests of the American investors, and of the American public, as paramount, from our viewpoint, to the interests of the Canadian side. Now, way back in the nineties there were two interests,—and I may say, gentlemen, that the interests of the Hydraulic Company and the Niagara Company are not in conflict and not in dispute; their interests are similar. These two interests, prior to the passage of the Burton Act in 1906 and in the nineties, acquired on the shores of the Niagara River and appurtenant to the Falls, certain real estate interests, and they became at that time riparian owners. I am going to be brief. They became riparian owners on the Niagara River at the point of the Falls. Their situation then was this:

The Niagara Company above the Falls, the Hydraulic Company below them but above the Falls, and the State of New York at the Falls—all had certain riparian interests under the law. The Niagara Company acquired by grant from the Hydraulic Company below them, and from the State of New York at the Falls, the express grant and privilege (and the law is that such riparian rights are severable and can be granted in whole or in part), they acquired the riparian rights to do certain things, to wit, this: To go upon their land above the Falls and construct their works, including tunnels through the Hydraulic

Company's land and through the State's land, and thereby use, that is, divert water sufficient to develop 200,000 horse power, and to discharge the same below the Falls. Now, then, not only from these granted rights but from the law of riparian rights, these companies were at that time advised by their counsel (not myself, but I would have told them the same thing) that they had the legal right under the law of the land, under the law of the State of New York, under the law of property rights in this country, they had the legal right that could not be disputed or invaded by any man or by any government, to make their structures and enjoy their rights, subject to this one qualification: That they must see to it that their diversions, whatever they might be, should not be such as unreasonably to interfere with the navigability of the Lakes or of Niagara River; and if they did not cause such interference, then neither the government of the United States nor of the State of New York had any right or authority to prevent them from going ahead with their improvements and enjoying forever the beneficial use to which they were entitled under their riparian rights.

Mr. Sharp. What in your judgment would the vested interests to which you refer—would there be any complaint on their part if the Burton Act was re-enacted, rather than if the whole amount were used, as under the treaty?

Mr. Brown. I would say, "yes." Their vested property rights would be interfered with. But I wish to say this: I am not here to argue to you against your right to legislate at all nor to try to cram down your throats what I think the law is. I am only trying to show you the circumstances under which these companies went ahead, and I want you to understand that what I shall urge upon you is to consider the equities of these companies as they exist under all the circumstances, to have

proper regard for their rights, at least their equities, in fixing the terms of the proposed statute.

Mr. Difenderfer. In a nut-shell, then, your contention is that this Committee has no right to enact any law?

Mr. Brown. On that theory I think this Committee has no right to enact any law.

Mr. Difenderfer. Has Congress, then, any right to pass any law?

Mr. Brown. I think Congress has a right to pass a law within certain limits.

Mr. Difenderfer. That is what the Committee would like to hear.

Mr. Legare. You may not want to answer my question at this time, but just keep it in mind. Having these vested rights, if Congress should pass a law fixing rates would it not be retroactive?

Mr. Brown. I was not going to go into the matter of rates until later, but I think it would not properly be called "retro-active." If I understand the essence of your question I would say, in regard to rates, that it would not only be unwise for Congress to attempt to fix rates, but I think that such an attempt would be invalid and ineffectual. That power so far as it exists belongs to the State of New York.

Mr. Legare. That answers my question.

Mr. Brown. I have certain things that I want to follow along and draw conclusions from.

Mr. Levy. Is it your contention that the riparian owners, by the purchase of the adjacent land, acquired the right to divert any water that they might desire to divert, with the consideration that the interests of navigation should not be interfered with, no matter what became of the Falls?

Mr. Brown. As purely a question of legal right, yes, sir; no matter what became of the Falls. Now, I am

going to put in to the record the summary of a ninety-page argument on this point.

The Chairman. The reporter will take this and incorporate in the record.

Mr. Brown. I want this printed as my summary of the law at this point.

LAW AS TO RIPARIAN RIGHTS—LIMITATIONS OF FEDERAL CONTROL—LIMITATIONS OF STATE CONTROL
—PROPOSITIONS STATED AND LEADING CASES
CITED.

Rules of Law as to Federal Control:

1. That the authority for Federal control of fresh navigable streams and waters in the United States, which at the same time defines and limits such control, arises solely from that power which has been expressly reserved to the United States by the Federal Constitution—the power to regulate commerce between the several States and foreign nations.

2. That this power of control was expressly reserved to the Federal Government by the States originally adopting the Federal Constitution, and by all States since admitted under that Constitution; and, subject to this specific power so reserved in the Federal Government, there has passed over to those States, upon their entry into the Union, all powers and interest, whether of ownership or of control, now or formerly belonging to the Federal Government, in the beds and waters of such navigable streams, and the Federal Government has since retained, and still retains, either as against any claim by a State or by an individual riparian, or both, ONLY the specific paramount right of control for the specific and limited purpose of commerce, that is, of navigation. Moreover, this Federal power of control is purely a sovereign power of control for a specified public use, and does not include, and cannot be extended to, any element of a proprietary right or interest.

3. That, subject to this purely sovereign right of

control of navigation, all right, title and interest, sovereign and proprietary, belongs to the States or to individual riparian owners, or both; and it is not within the Federal authority or power, either judicial or legislative, to fix or determine, as between a State and an individual owner, the limitations between State and individual ownership or control of water powers. The rights and obligations, as between a State and an individual owner, are fixed by the law of property as established by the decisions of the State Supreme Court in the State in question. This law of property, as so fixed in any State, is, as to streams in that State, binding upon the Federal Government and its Supreme Court.

Rules of Law as to State Control and as to Vested Property Rights of Riparian Owners:

1. The title and power of control by the State over the beds and waters of navigable streams are not in any degree proprietary in nature or extent. They are limited to a holding in trust, as a sovereign, for the specific purpose of protecting a public use, to wit, navigation and certain allied public uses.

2. The title and the power of the State are subject only to the Federal paramount power of control, as established and defined as above demonstrated. They are limited also by the private proprietary right of the riparian, as fixed by the law of the State.

3. The private riparian owner owns and retains all, and the only, proprietary title, right and interest, either to the beds and waters of such streams or to the usufruct thereof. He has the proprietary right to the beneficial use of the flow of the waters in connection with the natural head and fall upon or opposite his riparian land, and to the whole thereof; he has a proprietary right to utilize the bed and waters for the development of power and for the operation of water power plants. This right belongs to him *jure naturæ*, that is, because it is a natural resource and right belonging to and appurtenant to his riparian land and a part thereof. And this private proprietary

right is subject only to the sovereign right of control by the Federal and State Governments, for the public use of navigation.

4. As between the State and the riparian owner, the sovereign power of control of the former ends where the proprietary right of the latter begins; and the private right exists up to the point beyond which it would be inconsistent with the specific and limited public right. This private proprietary right of the riparian is the same, whether the title to the bed of the stream, either below high water or below low water mark, is said to be held by the State or by the riparian. The attempted distinction between the riparian rights, on the basis of the riparian's having a mere easement instead of a title, is, so far as these questions are concerned, purely speculative.

The above rules of law are established by the following leading cases:

Water Power Co. v. Water Board, 168 U. S., 358-365.

Hobart v. Hall, 174 Fed. Rep., 433.

Hall v. Hobart, 108 C. C. A. Rep., 348.

U. S. v. Chandler-Dunbar Co., 209 U. S., 447.

People v. Mould, 37 App. Div., 35, 39.

People *ex rel.* Niagara Falls Hydraulic P. & M. Co. v. Smith, 70 App. Div., 543; *affd.* 175 N. Y. 469.

Niagara County I. & W. S. Co. v. College Heights L. Co., 111 App. Div., 770-772.

Sweet v. City of Syracuse, 129 N. Y., 335.

Smith v. Rochester, 92 N. Y., 474.

Rumsey v. Rd. Co., 133 N. Y., 79.

Brookhaven v. Smith, 188 N. Y., 74.

See, also, Decision Wisconsin Sup. Ct. (January 30, 1912, in State *ex rel.* Wassau Ry. Co. v. Bancroft, Atty.-Gen., — N. W. Rep., —.

The Chandler-Dunbar case (209 U. S.) and the New York case of People v. Smith (70 App. Div.) above cited, expressly hold that the rules of law above stated apply as well to international boundary streams as to other streams; and the case of People v. Smith expressly holds the riparian rights on the Niagara River at the Falls to be as above

stated. These rules of property rights were relied upon by the owners of the power plants at Niagara Falls when they made their original investments and constructed their works with the capacities which have since been maintained.

Mr. Brown. Such is a summary of the law upon this subject; and it is so well settled that these rules of law are now recognized, not only by the Federal Supreme Court, but by the highest courts of every State in which the common law principles of riparian rights are recognized. This includes substantially all the States lying in whole or in part east of the Mississippi River. It does not include those far western States which never had any law of riparian rights, but where the law of prior occupation or prior appropriation prevails, such as Colorado. Cases from such States are not authority in either Minnesota or New York. The Federal Courts recognize and enforce the law of property rights on these questions, according as they find the local law to have been established by the courts of the respective States; and the United States Supreme Court has so expressly held in 168 U. S., 358, and other cases. So the Federal Court would enforce riparian rights at Niagara Falls, as such rights have been established by the New York courts. In passing, I would say that the same rules of law prevail in Canada, the only difference between the two countries being that here vested property rights are, through the courts, protected under the Constitution against encroachments by the Legislature of either the State or the Nation, while in Canada the Parliament cannot be so restrained.

The right that Congress has,—now, gentlemen, I talked about this matter before the National Waterways Commission the other day, and one of the gentlemen said, "That is merely your theory, isn't it, Mr. Brown?" So much the less merely my theory, it is the statement of the law that has been made by the United States Supreme Court and the courts have had this decision before them

for years. I demonstrate this proposition as a rule of law, to wit: That the power that the Federal Government has over navigable streams is for the specific purpose of navigation, it gets that power expressly from the clause in the Constitution of the United States, giving Congress the power to regulate commerce. It does not own the waters, it does not own the bed; it has no proprietary interests; it has only a right of control in its sovereign capacity, for a limited and specific purpose, to wit: for navigation. It is a power simply to prevent unreasonable interference with navigation. That is the law.

Now, then, every bit of interest in or power over these streams and their beds, except this limited right of the Federal Government (this is not my statement; it is the statement of the United States Supreme Court—168 U. S., 385), has passed to and is retained by either the State or individuals, or both, as the case may be; it all belongs to one or the other; and if you want to find where the right of the State, New York, for instance, and the rights of the riparian owners begin and end the Federal Supreme Court says you shall go to the law of property rights of the State as shown by the State decisions. The Federal Government having reserved only the paramount power to control navigation, everything else has gone either to the State or to the riparian owners; and in the determination of how that which is left is or shall be divided between the two neither the Federal Government nor the Federal Supreme Court has anything to say.

Consequently, we have this situation; that if we want to find out what the riparian rights are in New York we go to the New York decisions. Under the law the Federal Government has no more to do with "scenic beauty" than it has to do with the color of my hair.

Mr. Difenderfer. You haven't any.

Mr. Brown. That's right,—neither hair nor scenic beauty. (Laughter.)

Mr. Levy. Aside from this proposition of navigability, do you think it is affected as a boundary stream?

Mr. Brown. That is incidental. There is one thing that is certain: If a thing cannot affect the navigability of a stream it cannot affect the matter of boundary. The matter of boundary is not the question of there being water or there not being water. When the stream *as such* is the boundary, there international law fixes the boundary at the *thalweg*, that is, the deep water line, but in this case at Niagara Falls it is fixed at a certain line surveyed and described as any line. Suppose the river dried up, is not the boundary there just the same?

Mr. Flood. Would not the Government have a right of control over it as a matter of public defense?

Mr. Brown. If so, then only to the extent that might be reasonably necessary for that purpose.

Mr. Levy. Mr. Chairman, following up my question: If it should dry up it would still be a boundary, but do you think if Canada or the United States had no treaty as to how much power could be diverted and used,—suppose that the United States or the State of New York should give to some power company the absolute right to divert the whole stream over there, don't you think it might bring up the discussion of rights?

Mr. Brown. It probably would,—the question of private rights, international rights and the right of the United States or New York to attempt such a grant.

Mr. Difenderfer. How long have you been the attorney for the companies you are representing here today?

Mr. Brown. I will tell you frankly that as a direct attorney for these companies the first work I did was last fall; but that it is not the only experience I have had in these questions.

Mr. Difenderfer. I would like to ask you why this question was not brought up in 1906?

Mr. Brown. Let me say this; it *was* brought up, and you will read in the report of those hearings much mention of this subject; in the mass of other matter, however, this question was too much lost sight of.

Mr. Kendall. Then you hold that if your company was deprived of the right to use that power, if there was any power to deprive you of that right, you could hold that power responsible?

Mr. Brown. Yes, sir; but we would not have to be compensated for it until we demanded compensation. We are not here demanding compensation, nor demanding at this time recognition of our full rights of diversion. We ask that, up to the treaty amounts, our rights be respected. Now, that being the law of New York, we find in the decision of the Appellate Division of the New York Courts not only these propositions of law supported generally, but these propositions laid down as to this very river at this very point; which decisions have been affirmed by the New York Court of Appeals. The principles that I have stated are *reaffirmed*, confirmed: that these companies,—not vaguely *some* companies,—but *these* companies by name acquired their rights to make these diversions by virtue of their riparian ownership, and that those are vested property rights. The question of their naked fee in the bed only going to high water mark does not affect that conclusion because the State of New York holds, not a proprietary interest in the fee, but only an interest in trust as a sovereign to protect navigation; and subject to that, their rights of uses of the waters in the river are just the same as if their fee extended to the middle; and therefore these owners have these rights subject only to the right of the State of New York and the Federal Government to control navigation; and they hold those rights as vested property rights.

Why, gentlemen, some time ago they had assessed one company in New York on the basis that it got its rights to the beneficial use of the water for power by virtue of its riparian rights and that company said, "No, we don't get this by reason of our riparian rights, but by virtue of a special privilege or franchise from the State which is not assessable"; but the highest courts of New York (70 App. Div., 543; 175 N. Y., 469) said: "No; you get it solely as a property right, it is part of your riparian rights." Now, gentlemen, the United States Supreme Court in the case of another international boundary stream has decided these questions the same way (note the Chandler-Dunbar case, on the Sault Ste. Marie, 209 U. S., 447). These cases are all cited in my summary of the law on this point. Gentlemen, I am not here to pound you upon the law, but simply to tell you what rights these companies relied upon. I say they knew what their riparian rights were. Also, out of abundance of precaution (not that they doubted their rights, but as investors they had to borrow money and doubly satisfy those who financed their enterprise), they got patents and grants from the State of New York, by conveyance and by legislative grants, which not only confirmed them in their riparian rights, which they claimed, but also gave to them such rights in the State Park lands next the Falls as were necessary to allow them to make a diversion by tunnels extending below the Falls. Relying then, gentlemen, upon these riparian rights and upon the rights acquired from the State of New York, these people first had a series of investigations made before they started work.

Mr. Garner. It is now twelve o'clock and I assume there are a number of gentlemen who want to get away. It is important to be on the floor of the House until we get started. We can get away by one-thirty.

The Chairman. We will let Mr. Brown finish.

Mr. Legare. Your companies applied to the Secretary of War for a permit subsequent to the enactment of the Burton Law?

Mr. Brown. I do not know whether they did or not but—

Mr. Legare. Well, you are operating now under a permit?

Mr. Brown. Under this Burton Law. However, the fact that we complied with that law does not change our legal rights.

Mr. Legare. And those permits are revocable.

Mr. Garner. I understand your argument now is based upon the conditions existing before the Burton Law was passed?

Mr. Brown. Yes, sir. The position in which these parties were before the Burton Law was passed; and I want to show you that these legal rights, or at least the equities of these companies based upon their legal rights, were intended to be regarded and protected by the Treaty of 1909.

But are you going to refuse to consider these equities any less than did the Burton Act? Or any less than did the Treaty? Will you refuse, at least to take into consideration the equities of the investors at the Falls? Are you going to insist on passing an act that is so inelastic that by its very inelasticity it will prevent the rights or equities of these companies from even being considered by the State of New York or the Secretary of War or by anybody else, who may have the power of distribution of this power?

Mr. Garner. This is a most interesting argument because upon the legal rights and equities of these companies depends whether or not we shall determine how much shall be generated from Niagara Falls.

The Chairman. The Committee will now take a recess until one o'clock.

Whereupon, at twelve o'clock M., the Committee took a recess until one o'clock.

After recess the Committee met at one o'clock P. M.

Mr. Rome G. Brown. Gentlemen, to resume and in order to get the connections: I stated this morning that we were relying upon the law of riparian rights recognized as belonging to people in the situation in which the two American companies were,—recognized, not only by the National Supreme Court, but by the Legislature and courts of the State of New York, the New York courts being, according to the decisions of our Federal Supreme Court, the courts which fix the rights of the riparian owner.

That law gives to the riparian owner the right to the beneficial use of all the water power, subject only to the right of the State to control for navigation; and all those rights are subject to the paramount right of the Federal Government,—not plenary, not unlimited, not to make every prohibition, but, under the Constitution, to control only so far as necessary to prevent unreasonable interference with the navigation of the river.

Let me say here: I have put in for your reference a summary of a ninety-page argument on these questions written a month ago. The full argument is too long to incorporate in this record, and I have handed each member of this Committee a copy of the complete argument. That argument will convince any lawyer or layman that my conclusions are right.

Relying upon that law of riparian rights and upon those rights which were gotten from the State of New York, including the legislative grant to the Niagara Company, for instance, of the right to divert and use and have the beneficial use of water sufficient to make 200,000 horse-

power, the Niagara Company went ahead to make its construction. This was in the nineties. The Hydraulic Company afterwards made its construction. Gentlemen, before the Niagara Company started construction what further did they do? Now, all this discussion is to show you what was the position of these parties in 1906 when the Burton Act was passed; for you cannot very well tell what you want to do with the Burton Act unless you get the situation at that time. Did this company go ahead and construct a 200,000 horsepower plant, disregarding the consideration that they were subject to the rights of navigation? No. I know more particularly about the Niagara Company than the other company. They hired outside engineers and made investigations running through four years to determine, so far as experts and engineers could determine, what might be the effect of that development upon navigation,—which was really all they had to look out for. But they went further than the law required, and sent for these engineers to tell them what effect it would have upon the scenic beauty of the Falls; and not only that, gentlemen, not only the effect of the diversion of water upon scenic beauty and upon navigability, but also what should be the effect upon the general landscape view; what structures would least mar the beauty of the landscape. They engaged the services of the best engineers and landscape artists in the world (I am speaking now particularly of the Niagara Company) to determine not only the effect upon the scenic beauty of the diversion of the water itself, but also to determine how best to preserve the scenic beauty of the Falls by making their constructions, their general landscape view, the best to conform with and the least to injure the natural scenic grandeur of the entire locality. They did all that before they turned a shovel of soil.

They found this: That, with the Hydraulic Company using approximately 9,500 cubic feet per second, the

plan which they then had in view, and the Niagara Company using 10,000 cubic feet per second, the navigability of the lake and river would not be affected at all, and the integrity of the river as a boundary stream would not be affected at all. Then the company's engineers, having investigated the question of the effect of the diversion upon scenic beauty, reported, saying: "This would not appreciably affect the appearance of the Falls." The best landscape artists in the United States, after going over the matter at the request of the Niagara Company, said: "Gentlemen, you have come to us saying that, whatever your legal rights or legal obligations, you desire to make a structure for the beneficial use of this water power, which shall so far as possible be compatible with the general scenic grandeur of the Falls. If you put the power house down here, it injures to some extent the landscape. If you improve this way and shorten the head-race or the tail-race, you make your structure so much more injurious to the landscape and scenic beauties; but if you will take your water up from this place, and then from your turbines carry it by a tunnel underground, you will thereby the least possible affect the scenic grandeur of the Falls." That is what the engineers said. That is what the landscape artists said. What did our people do? Gentlemen, what are the facts? What did our people do? Why, our engineer, said "That is all right. The artists have a great eye for beauty but they do not consider the sacrifice of water power."

Let me remind you that Mr. McKim and Mr. Millet were afterwards members of the national committee to investigate this very subject. The engineers said: "Here you are going to lose because you carry the water too far, because you don't put the works down nearer the crest, and because you have done this to preserve scenic beauty you will have to lose some of the

head and fall you would otherwise have." In other words, gentlemen, to cut the story short, in order to take the water around at such a distance from their works, as they were operating above, and discharging below, in order to preserve the scenic grandeur of the Falls, they had to lose use of some of the available head. And what is the result? That out of a possible head of 190 or 200 feet the Niagara Company from that time to this spends,—wastes, as some say,—50 or 60 feet in order to get the water down and around, for the sole purpose of preserving scenic beauty; and they have only 140 instead of 190 feet, speaking in round figures.

Why? Because they constructed in a method which at that time was, and ever since has been, the method of operation there which is most consistent with scenic beauty. That is what they did. That is what they were advised, and every single engineering and landscape advice that was given by their engineers and artists has since been confirmed by every investigation of the United States Government Survey, which investigations had not then been made.

Under those circumstances they went ahead and made their construction; not to divert water to make their authorized amount, 200,000 horsepower, but approximately 100,000 horsepower. The Hydraulic Company also constructed, not to the full capacity allowed and granted by the State of New York, but with a lesser capacity consistent with preserving scenic beauty. Gentlemen, let me recall right here: (I attribute it to a misunderstanding, to a lack of knowledge of the history of this thing) that some person or some member of this Committee even, now says,—or that even General Bixby says,—that if further diversion of water is allowed it should be allowed to the companies in position to get the most horsepower out of every cubic foot of water.

Why? When the whole basis of this thing is to preserve scenic beauty? Gentlemen, the Niagara Company has, mainly for the purpose of protecting scenic beauty, built its plant so that it can only get 140 out of 190 feet available head. You, in legislating to carry out the provisions of a treaty which was entered into solely for the purpose of protecting scenic grandeur, are asked to take the water which we say belongs to us, in equity at least if not in law, and distribute it to somebody else who is operating, or to somebody else who will construct and operate, comparatively regardless of scenic beauty.

Our very sacrifice for the cause of scenic beauty, our regard for the very thing which was the object of this Treaty, is made the basis of discriminating against us and in favor of those who were more selfish and less patriotic than we. Right here note that General Bixby qualifies his statement by saying that his advice for any such discrimination is purely from a technical engineering viewpoint, without reference to the question of scenic beauty. He protests that considering everything, including the equities of the Niagara Falls Power Company, he would not urge any company to be preferred over them. His department, in their official report (Sen. Doc. 105, p. 16) says that an allowance to that Company to divert an amount sufficient properly to operate their plant to the limit of its present capacity "may be regarded as a simple act of justice." Again, after reviewing the history of the Niagara Falls Power Company construction, its regard for scenic beauty and the fact that it had installed to the capacity of 100,000 horsepower (one-half of its right under its grant) and the fact that the 8,600 limit under the Burton Act was not sufficient to run its plant as installed and operated before that Act was passed, the same report says (p. 139):

"The desirability, as well as the justice, of amending the Burton Act so as to permit the Niagara Falls Power Co. to divert water to the full capacity of its railrace tunnel are plain.

"In view of the intimate bearing of this investigation upon the interests of the company, and as an acknowledgment of the helpful co-operation of the company, it is believed to be advisable to furnish the company with a copy of this report and permission to do so is requested."

Under the circumstances stated, the American investors, the Niagara Company and the Hydraulic Company, prior to 1906 made, completed and operated their plants;—the Niagara Company to the capacity which has ever since been maintained; the Hydraulic Company completing its installation but, as I understand it, not at first operating to the full capacity; but neither of them ever installing or operating to the full amount authorized by their riparian rights and by their grants from the State of New York. The Niagara Company had regard for scenic beauty. The question of scenic beauty having then been solved by their engineers, has also since been solved in the same way by the Government engineers.

Then after they had done that, somebody, along in 1904 or 1905, spread an epidemic of agitation throughout the country, and the result was an injustice. It was an agitation that was based entirely upon disregard of the law, on ignorance and disregard of the facts, and let me say, in some quarters, on mis-statement of facts. The result was, that there came a feeling in Congress that scenic grandeur was in danger and that further diversions should be restrained. Therefore, the Burton Act was passed, and it was passed upon this basis (as shown, not only in its terms but also in the proceedings that led up to its passage): that these people upon the

American side having made these investments, under the circumstances I have stated, their rights, at least to a certain extent, gentlemen, should be regarded first.

With this explanation, gentlemen, I appeal to you. The people, through you as their representatives, are supposed to have a regard for property rights and for investments made in reliance upon property rights. Upon the Canadian side investments were made, and there was an arrangement made upon the Canadian side with these different companies of which the substantial effect was, that half of the power that was produced upon that side should be reserved for use in Canada. The installations that had been made on the Canadian side did not exceed the amount of 36,000, as fixed by the treaty later, but they were planned for about that amount. Just before the Burton Act was passed these facts were found; that on the American side the plant of the Niagara Company had been installed with a capacity of about 10,000 cubic feet per second, but at one particular time it was found that that particular company was getting along with about 8,600 cubic feet per second. It was found that that 8,600 cubic feet per second, assuming the use to have been an average use, with other amounts then actually used, made up 15,600, and that with those amounts they could probably run along for a year or two. So the Burton Act fixed 15,600 as a total limit and 8,600 as the limit for any one consumer. It was also thought that if too wide permission for transmission to this side was given to Canada it would encourage diversions on the Canadian side, and that, therefore, that would have to be restricted, and thereby further help scenic beauty. They made the restriction of importation 160,000 horsepower, which is equivalent to the use of about 10,000 cubic feet a second. The Burton Act provided for the negotiation of the Treaty. That Act of 1906 was intended only as a

modus vivendi until all questions could be investigated and settled by the Government engineers and a Treaty negotiated fixing the limits of diversion, not temporarily on the basis of rough estimate, but permanently on the basis of demonstration. The Burton Act was the best guess that could be made at the time it was passed. Its effect, however, was, that what should have been 20,000 was made 15,600 (the total diversion on this side) and what should have been 10,000 was made 8,600 (the limit to one consumer). The companies submitted, at a loss, but because it was supposed to be temporary. The United States engineer tells you that both of these companies have observed the limits and obeyed that Act right along although it took four years before the Treaty was promulgated. Every single finding of the engineers and of the landscape artists of this company, upon the basis of which they had constructed their works, was found by the Government engineers and artists to be right: that with the total diversion of 20,000 feet there was no effect upon navigation or upon the river as a boundary stream; and that there was no appreciable injury to scenic grandeur. Upon the basis of those facts so found, the two countries, Senator Elihu Root acting for this country and Ambassador Bryce for Great Britain, made the Treaty of 1909.

What did the Treaty do? The very purpose of the Treaty was to promote scenic grandeur. It says (Article V): "It is the desire of both parties to accomplish this object with the least possible injury to investments which have already been made in the construction of power plants on the United States side of the river under grants of authority from the State of New York or on the Canadian side of the river under license authorized by the Dominion of Canada and the Province of Ontario." The "object" was the limitation

of the diversion of waters to protect scenic grandeur. The representatives of these two nations found upon investigation these facts to be true: that under all the circumstances the total diversion of 56,000 c. f. s. was not too large,—that that amount, under all the circumstances, considering the amount that was being taken by the Chicago Drainage Canal Company, was about the proper amount. They further found that the two users upon the American side, who had made their investments, should have at least 20,000 c. f. s., that is, 10,000 for the Niagara Company, 9,500 for the Hydraulic Company and 500 for another company.

Mr. Garner. Who gave them that assurance?

Mr. Brown. It was given them by the facts reported by the Government engineers and the International Waterways Commission. It was also found that the Hydraulic Company had brought their plant up to the contemplated capacity and that in order to operate it on an economical basis, it would require about 9,500 cubic feet. You take the 6,500 that the Hydraulic Company had had under the Burton Act and add 3,000 to that and it makes 9,500. You take the 8,600 allowed the Niagara Company under the Burton Act and add to it the 1,400 and it makes 10,000; there is just the difference between the 15,600 in the Burton Act and the Treaty amount of 20,000. That was one of the main considerations of making it 20,000 on this side. It was the main consideration of fixing it down as low as 20,000 because up to that point it was considered that these companies had not only their legal rights but they had equities. This Treaty was made in 1909 and promulgated in 1910. Nobody ever supposed or claimed that the Burton Act was intended as anything more than a temporary measure to govern for the three years necessary to get the information for the basis of a Treaty and to make the Treaty.

Then after this Treaty was made, these companies came in and asked for their rights under the Treaty. Several joint resolutions were introduced and amendments were proposed to bring them in line with the Treaty, but, on account of a mix-up that always occurs when full hearings are not had, the Burton Act has simply been carried along; and, although the Treaty (which was contemplated by the Burton Act to take the place of the temporary provisions of that act) *has* been made, the Burton Act is still the statute that controls these limitations. As a precautionary measure the Burton Act cast every doubt against the investor. But you now have a Treaty, made upon investigations which show the results as I have stated; and the proposition now before you is: What sort of a statute are you going to enact to carry out that Treaty?

Mr. Difenderfer. You have referred to the Hydraulic Power Company. Is that known also as the Schoellkopf Company?

Mr. Brown. Yes, sir.

Mr. Difenderfer. Is it not true that they have an open canal through which they create their power?

Mr. Brown. I understand that is true.

Mr. Difenderfer. My reason for asking that was to know whether it would add to the scenic beauty of Niagara Falls to have an open canal.

Mr. Brown. I wish you would discuss that with the Hydraulic people. I represent the Niagara Company. We have no connection or agreement with the Hydraulic Company, but both know the scientific fact that, in order to operate economically under present installations, we need 1,400 c. f. s. more and they need 3,000 c. f. s. more. We would have no conflict with them on this question. If you should leave this question to these two companies we would agree.

Mr. Difenderfer. No doubt.

Mr. Brown. Don't make an act so inelastic that although these companies could come together you would have put it out of their power, or of anybody for them, to make a proper division, and exclude the Niagara Company without even a chance to present its claims.

Mr. Garner. You speak about the possible inelasticity of the proposed act. Suppose we should go ahead and give you the full power that you are entitled to under the Treaty; you would then come in with an additional claim, no doubt, that you had vested interests and could take *all* the power. What, then, about the inelasticity of the act?

Mr. Brown. Let me call your attention to that. Our works (speaking for the Niagara Company, which is now limited to a diversion of 8,600 feet per second), from a time long before the Burton Act was introduced, have been maintained with their present capacity,—a capacity well within our legal and equitable rights. For that capacity 10,000 feet is not a maximum but a moderate amount. We have not, since the Burton Act, increased our capacity for the purpose of creating a use for the extra amount that we ask for.

Gentlemen, we don't ask you to put into this act that we should have control of this 4,400 feet more, nor any part of it, because we say that is a detail which you don't want to go into. On the other hand, while not making it so specific as that, we don't want you to make an act so inelastic that we cannot go before a proper tribunal and have our equities, at least, considered.

Mr. Garner. But would it be elastic if we let the Burton Act pass out of existence and then give you a new act allowing you the use of the entire power?

Mr. Brown. If the proposed act makes any limitations, then, under the circumstances which have been here shown to exist and which now appear in the United

States Survey Reports, it seems to me that the limitations of the Act should be the same as the limitations of the Treaty.

Mr. Garner. It would be inelastic, then, if it were co-equal with the terms of the Treaty; there would not be any change at all.

Mr. Brown. I see your point. We don't ask to receive all the extra amount. We want, at least, that we should have a chance to be considered in the distribution. There is no doubt that this extra 4,400 feet should be allowed. Now, then, whether it shall be to some new industry or the Niagara Company in part or alone or the Hydraulic Company in part or alone, who shall get it, and in what proportions, I say that question should be left, we will say, for instance, to the Secretary of War to determine, after a hearing. By the express terms of the act he should be allowed to take into consideration the legal rights and the equities of the present investors, whatever he shall find them to be, and also, of course, the interests of the public and all interests. I would like to come down to the question of what the proposed act should provide.

The Chairman. Will you come down to the question of the legislation before us?

Mr. Brown. The legislation before you, it seems to me, gentlemen, should, in the first place, add 4,400 feet more, so as to make 20,000 feet the total limit on the American side. That is the first proposition. Why? Because it has been shown by the reports of these surveys and stated to you orally on Tuesday by General Bixby as his conclusion that that would not have any effect upon navigation, nor upon the stream as a boundary line, nor even upon the scenic beauty of the Falls. It would have no effect,—hardly measureable, much less perceptible, on the American Falls.

Mr. Garner. Would it be possible for the forty-four

hundred cubic feet extra to become the property or right of any other company besides the two that are now operating?

Mr. Brown. You ask me my present opinion as a pure matter of law?

Mr. Garner. Yes.

Mr. Brown. I say frankly, no. Gentlemen, don't misunderstand me. I am only stating that upon which we depended when we made our investment. I am simply reminding you that we had good ground to believe it; that we acted upon that belief, and that we were right; and upon the strength of that I appeal to your sense of justice to consider our equities.

Mr. Garner. I only asked for information.

The Chairman. If this Committee sees fit to vest the power in the Secretary of War or the Public Service Commission of New York to dispose of this power, either one of those agencies *can* dispose of it to whom they see fit?

Mr. Brown. You mean they would have the legal right to do it,—give it all to someone else and ignore us?

The Chairman. Yes.

Mr. Brown. As a matter of law I don't think they would.

The Chairman. What would you do if they did?

Mr. Brown. That I cannot tell. I know what I would advise. (Laughter.) One thing is sure. Before the power is allotted, I would ask for a hearing and I would go before the Commission of New York or before the Secretary of War, whichever has the say, and knowing the fact that our equities could be considered, I would rely upon the faith that before we got through we would impress those gentlemen with what is right and fair in the matter.

The Chairman. Have you considered the fact that the Secretary of War can now rescind your permit?

Mr. Brown. The terms of the Act so provide; yes, sir.

Mr. Garner. Before you go from the other proposition, you made a suggestion as to what the provisions of the bill should be, which would be virtually a direction that your companies be given this additional amount?

Mr. Brown. Not necessarily.

Mr. Garner. Yes; but if the bill should provide that they shall take into consideration your legal and equitable rights,—if a bill contained that kind of a clause, and if I were Secretary of War, I should feel that Congress directed me to give preference to those rights over those of any newcomers; whereas if you left that out, you could still appeal to this Commission or to the Secretary of War in an argument based upon your legal and equitable rights?

Mr. Brown. You see, I wouldn't appeal to men's favor, nor to prejudice; I say again we are not here holding the law over you as a threat. I would say to the authority having the power of disposal: "Here are our rights under the law. It is your duty to consider them. In view of all the circumstances, it is fair that the Niagara Company should be given 1,400 of this 4,400 feet; the Hydraulic Company can speak for itself." Instead, for instance, of giving it, in terms, back to the State of New York, who have already in advance given it to us, it is more equitable to leave it open, so we may be considered. If the permit were expressly confined to those utilizing the highest head, they might have to give it to some man who comes up here with a \$35,000,000 proposition (on paper) which is only an *in futuro* dream, and who says: "Until we get our scheme financed, we want to tie up the use of this extra power and prevent its use by those who have already

made investments on the faith that they would be allowed enough to operate at normal capacity."

Mr. Garner. You could do that very easily, Mr. Brown, if the Secretary of War should direct it as he sees best, because otherwise it would be an expression of Congress as to what its views were in the premises.

Mr. Brown. In general, I agree with you. Now, the point is this: It is impracticable for Congress to determine in advance the exact limits, conditions or grantees of these permits; but you can determine the general policy and leave the details to somebody else, so that a proper and equitable distribution can be made.

Mr. Garner. And it would be more elastic if we did not compel the Secretary of War to take into consideration the legal and equitable rights—

Mr. Brown. I beg your pardon; I think I intended to state that the proposed act may be too elastic and that it may be too inelastic. Is it no reflection on Congress that, when it leaves a discretion to a certain department or a certain commission, it shall say to that department or commission: "Not exclusively, but beside other things, you shall, in reaching your conclusion, take into consideration the vested property rights, under the law, and equities, whatever you shall find them to be." Why, gentlemen, that seems to be doing only what the Burton Act did (although inaccurately) and what this country did (but more accurately) in its convention with Great Britain, each country being represented by its most prominent lawyer and citizen. Why should you now, in an Act to give effect to that Treaty, be less considerate of equities and property rights than is the Treaty itself?—Less considerate than even the Burton Act?

Mr. Difenderfer. If we were to grant this extra amount of power to two of those companies, wouldn't

the Niagara Falls Power Co. be the principal beneficiary, in view of the fact that the Hydraulic Power Co. is very limited in point of production and distribution?

Mr. Brown. Now, as I understand the situation, there is no member of this Committee but knows,—and I think we can take General Bixby's word for it,—there is no worry that these companies will not have a market for all the power they can get. They need all the extra power allowed under this Treaty. Four thousand four hundred more will put us where we can operate our plants economically: 1,400 feet puts the Niagara Company in proper condition; 3,000, the Hydraulic Company.

Mr. Legare. Who do I understand fixes the amount of water now being used by each company?

Mr. Brown. The Secretary of War.

Mr. Legare. The Secretary of War fixes how much water you shall use and the other company shall use?

Mr. Brown. Yes, sir. Now, I stated the general conclusions as to the effect upon navigability, upon the river as a boundary stream, and upon the scenic beauty, as stated in the reports, made by this 4,400 feet. I have a short statement from the U. S. Engineers' Reports, S. D. 105 and H. R. 246, which I wish to go into the record at this point.

The Chairman. Yes.

Mr. Brown. It is as follows:

(1) *Effect on Navigable Capacity of River and Lake:*

The reports show that the only diversions that need be considered with reference to this topic are those made above the upper cascade of the Rapids in the so-called Chippewa-Grass Island pool; that is to say, the diversions of the two American Companies and that of the Ontario Power Company. The diversions made by the Canadian Niagara Power Company and the Electrical Development Company being below the

upper cascade cannot possibly affect the level of the navigable portions of the river or of Lake Erie. (H. D. 246, 62d Cong., 2d Session, p. 11.)

The present permitted diversion from the Chippewa-Grass Island pool assumed to be 19,350 c. f. s. is stated to lower the level of Lake Erie 0.07 ft. or about four-fifths of one inch. (Sen. Doc. 105, page 12.) Major Keller states categorically that this diversion "will not injure nor interfere with the navigable capacity of the Niagara River." (Sen. Doc. 105, page 12.) The effect upon the navigable capacity of the river of further diversions is stated on page 51 in a table showing the effect of each 10,000 c. f. s. additional diverted from this pool. The effect at Lake Erie for each 10,000 c. f. s. diverted is stated to be 0.04 ft. The maximum diversion now proposed from the Chippewa-Grass Island pool is about 32,000 cu. ft. per second (20,000 on the American side of the river and 12,000 by the Ontario Power Company); that is to say, 12,750 c. f. s. in addition to the amount stated in the report as the amount now permissible. This additional 12,750 c. f. s., therefore, will cause a lowering of Lake Erie of 0.05 ft. or about $\frac{3}{5}$ of 1 inch.

These predicted lowerings at the head of the river measured in fractions of an inch are quite negligible in comparison with the variations of lake level due to nature, which swing through a range of 14 ft. (Sen. Doc. 105, page 24.)

Now General Bixby stated to this Committee on Tuesday the fact, and it is a self-evident fact, that the full amount of diversion allowed on the Canadian side will surely be made within two or three years, whether transmission to this side is allowed or not. The question then which interests this Committee is as to the effect upon navigability caused by allowing an extra 4,400 c. f. s. on this side. That extra diversion would manifestly cause a difference of levels of Lake Erie of only about one-fifth of

an inch. It therefore is manifest that this extra diversion cannot affect navigability.

Indeed, General Bixby stated to this Committee that the diversion of the full amounts fixed by Treaty on both sides of the river would not appreciably affect navigation.

(2) *Effect upon the Integrity or Proper Volume of Niagara River as a Boundary Stream.*

The reports make it quite clear (Sen. Doc. 105, page 13) that no diversions that have ever been proposed will injuriously affect the river in this regard. (See also H. D. 246, page 12.)

The report of the United States Engineers, made after most careful investigation, shows therefore that the diversion of the full amounts fixed by the Treaty would have no appreciable effect upon the navigability of the stream or of Lake Erie and no effect upon these waters as boundary streams.

It remains to consider the results present and prospective upon the scenic beauty of the Falls.

As to the American Falls, both the reports of 1908 and 1911 show that the diversions are such that "it is doubtful whether the diversion would be appreciable" and "these changes cannot be considered as important" (Senate Document 105, page 14; H. R. Doc. 246, page 12).

Again, the only material question here now is as to the effect upon the scenic beauty of the extra diversion of 4,400 c. f. s. on the American side; for Congress cannot limit and the Canadian Government will not limit the amount of the diversions upon the Canadian side below the Treaty amounts. Figuring from the data which is given by the U. S. Engineers in Sen. Doc. 105, page 53, and H. R. Doc. 246, page 13, and Sen. Doc. 105, page 51, a diversion of 4,400 c. f. s. on the American side would have the following effect:

At the crest of the American Fall, less than $\frac{1}{8}$ in.
 At the Goat Island end of the Horseshoe
 Fall, approximately $\frac{9}{16}$ in.
 At the Canadian end of the Horseshoe Fall,
 less than $\frac{7}{16}$ in.
 At Lake Erie, approximately $\frac{1}{5}$ in.

These quantities are evidently insignificant and with reference to the effect of the diversion of an extra 4,400 c. f. s. General Bixby on Tuesday stated to this Committee that the diversion of that extra quantity would have no appreciable effect upon either the American Falls or upon the Horseshoe Falls.

Therefore, the diversion, over which Congress is assuming control, for the preservation of the scenic grandeur,—that is, the diversions up to the Treaty amount upon this side of the river, and especially the additional amount of 4,400 now asked to bring the American diversion up to the Treaty amount, can have no appreciable effect upon the scenic grandeur of either the American Falls or the Canadian Falls.

So I say, gentlemen, so far as this 4,400 feet is concerned, it should be granted to *somebody*. In other words, the limit of 15,600 feet total diversion upon the American side which is fixed by the Burton Act should be extended to 20,000, as provided by the Treaty.

Mr. Garner. That could be effected by changing the figures in the Burton Act.

Mr. Brown. Sure, certainly; I could make that change and other changes very easily. (Laughter.)

Now, gentlemen, let us examine the other propositions. The first (already discussed) is to raise that restriction which now deprives everybody, individuals and the public, of the use of 4,400 cubic feet of water per second. The second is, to do away with the prohibition upon the transmission of power from Canada. The limitation is now

160,000 horsepower. Mr. Watrous made the statement or inference here the other day that of the 160,000 H. P. allowed to be imported from Canada under the Burton Act they are now permitting only 110,000. Now, gentlemen, I have those figures; and this will be the third insertion I wish to make. It is as follows:

The following permits for diversion have been operative since August, 1907 (H. R. Doc. 246, p. 13):

Niagara Falls Power Co.....	8,600 c. f. s.
Niagara Falls Hydraulic P. & M. Co. (now Hydraulic P. Co.).....	6,500 c. f. s.
Lockport Hydraulic Co.	500 c. f. s.
Total	15,600 c. f. s.

These figures are maximums.

By the same report the following have been the permits for transmission from Canada since August, 1907:

Canadian Niagara P. Co. to Niagara Falls Power Co.	52,500 h. p.
Electrical Dev. Co. to certain com- panies	46,000 h. p.
Ontario Power Co. to Niagara L. & O. P. Co.	60,000 h. p.
Total	158,500 h. p.

The same report (H. R. Doc. 246, p. 15) shows that the transmission permit from the Canadian Niagara Power Company and from the Ontario Power Company was practically all transmitted, the 52,500 allowed from the Canadian Company being fully transmitted and about five-sixths of the amount permitted to the Ontario Co. Of the 46,000 permitted from the Electrical Dev. Co., only 10,000 has been due. This is because of temporary conditions.

Mr. Garner. The total authorized importation is 160,000 H. P.?

Mr. Brown. Yes, and the total amount actually permitted is 158,500.

Mr. Garner. The total amount actually transmitted is how much?

Mr. Brown. The maximum in June, 1911, was 110,000, the difference being because the Electrical Company does not use all theirs; but that does not give the other companies the right to import more.

Mr. Garner. I assume those permits are revocable?

Mr. Brown. Yes sir.

The Chairman. In a nut-shell, as I understand it, you are in favor of utilizing the additional power we are entitled to under the Treaty. Secondly: you are in favor of removing any restrictions upon the importation of power from Canada. Third: we would like to know, now, which of these two bills you prefer, the Smith Bill or the Simmons Bill?

Mr. Brown. I would like to finish certain points. We are in favor of lifting these restrictions, from the standpoint of business men. When General Bixby spoke to you Tuesday, he said: "Gentlemen, the Treaty between these two countries allows 36,000 cubic feet diversion upon the Canadian side—" (now, these are not his exact words but it is the substance of them). "If you think that by prohibiting the importation of Canadian power you are going to do anything that is directly or indirectly to protect scenic beauty, you are mistaken, because it is not going to have the effect in the end of diminishing what would otherwise be the actual diversion on the Canadian side." Somebody asked the question: "How long, five or ten years?" "No, gentlemen," he replied, "I say if you don't take this restriction off within two or three years they are going to use every bit of that power on the Canadian side."

Mr. Difenderfer. Where?

Mr. Brown. On the Canadian side. There are industries in Buffalo and on this side which cannot be run by electricity economically because they cannot get this power that would be developed on the Canadian side. There is great demand on this side for more power. Industries would immediately take up this power if it is found that the policy of the American government is to refrain from restriction on importation. They can only import about half of that power because they have practically agreed to save half of that for the Canadian side.

Mr. Difenderfer. You say that power is likely to be used to its limit within the next few years?

Mr. Brown. I said that General Bixby said it would be within two or three years, and anyone who knows conditions up there, knows he is correct.

Mr. Difenderfer. For the very reason, as I have stated before, that they can get that power for twelve, while on our side the minimum is 29.

Mr. Brown. Those figures are not correct but I was going to speak about the rates in a moment. And right here, would it not be a strange thing for a legislative body to come in and interfere in the matter of rates between the consumer and the producer when there is no demand for interference; the only cry from the present and prospective consumers is for more power at the same rates. Have you heard any substantial complaint of inequity or inequality or injustice on the American side?

Mr. Difenderfer. It is quite evident that there is a discrimination.

Mr. Brown. Isn't the man who is taking the power and paying for it the man to kick? And is it not strange that this rate question is not troubling him, but is troubling only outside agitators? The rate question in Buffalo is not an economic question; it is simply one of politics.

Mr. Difenderfer. If you take the evidence of the coun-

sel of the City of Buffalo it looks to me as if it would take thirty-five thousand dollars to make the kick.

Mr. Brown. Wait a minute. The City of Buffalo has devoted \$35,000 to have the rates investigated. Is that right?

Mr. Difenderfer. That is right—to appease the kickers.

Mr. Brown. Now, gentlemen, when anybody makes a complaint the party that asks the change has to show the proper facts. And isn't that true before a commission or before a court or before any judicial body? Isn't that true? If somebody says that in the City of Buffalo the rates are high, they know it requires an investigation, and it is long, and it is expensive; and then there is that other awful item—lawyers' bills!

Mr. Difenderfer. Yes, sir, that is an item.

Mr. Brown. And they have to be paid—at least they have to be incurred. (Laughter.)

Mr. Difenderfer. I am glad you make that distinction.

Mr. Bartholdt. I should like to ask a few questions. I want to ask for my own information and satisfaction.

Mr. Brown. You see, I have been drawn off on this question of rates. I am coming to the conclusion that the Congress should not trouble itself about rates.

The Chairman. In regard to rates, the Public Service Commission of New York can fix them if there is any complaint?

Mr. Brown. Certainly, sir.

Mr. Bartholdt. I am concerned only in the beauty of the Falls. I regard it as the greatest asset of the people of Buffalo; I regard it a very poor investment to detract from it.

Mr. Cooper. Would you amend that by saying "the people of the world"?

Mr. Bartholdt. Yes, sir.

Mr. Cooper. At many places in Europe Niagara Falls

is the first thing they ask about:—"Have you seen the Falls?"

Mr. Bartholdt. Now, I want to ask this question, Mr. Brown, the only excuse for the Burton Bill was to prevent detraction from the Falls—from the scenic beauty of the Falls?

Mr. Brown. To *protect* the scenic grandeur.

Mr. Bartholdt. Precisely. Now, was the question, in connection with the Treaty between Canada and the United States, of limitation, as fixed in the Treaty, considered as satisfactorily answering all possible doubts as to detraction from scenic beauty?

Mr. Brown. Certainly, yes.

Mr. Bartholdt. And also to the extent that the Treaty findings were made after very careful investigations by the government engineers and the National Waterways Commission, and the question of international—

Mr. Brown. Yes, all those were considered by those who made the Treaty.

Mr. Garner. Doctor, Mr. Brown went over that before you came in.

Mr. Bartholdt. Now, is there any law on the statute books of the United States to preserve the beauty of Niagara Falls?

The Chairman. Nothing but the Treaty.

Mr. Bartholdt. So that the jurisdiction of Congress is only with regard to navigation, and the other is all sentiment?

The Chairman. Yes, sir.

Mr. Legare. I understood General Bixby to say it would be imperceptible.

Mr. Bartholdt. We are naturally interested in preserving the beauty of the Canadian side as well as the American side.

Mr. Brown. So far as the 4400 feet is concerned, it is practically imperceptible in the length of the Falls. If you

take the entire amount of diversion you have only four inches less depth on the American side of the Horseshoe Falls and nine inches less on the Canadian side.

Mr. Bartholdt. But General Bixby said that amount would be total?

The Chairman. That is on the Horseshoe Falls.

Mr. Brown. But remember this thing. The United States has power only to protect the American side. When the two countries have got together and said that Canada may take 36,000 and we may take 20,000 feet, is there any reason why we should say: "You Canadians over there are not doing anything to protect scenic grandeur; *we* will take care of that by refraining from exercising our privilege under the treaty, and by restricting importation to our side, so as to force industrial development on your side at the expense of American interests which are now ready to use the power." We know the Canadian companies are going to take the 36,000 feet. We know that it cannot hurt in any degree that is sensible to the eye. Now, the extra amount on this side is 4400 feet and the Canadians have only to add 15,000 to get their allotted amount. Are we going to hang back until they utilize their last foot, and lose this vast power forever? Is it wise, gentlemen, when the Canadians are going to divert their entire 36,000 feet and when the whole amount is, for all practical purposes, not sensibly injurious to scenic beauty?

Now, gentlemen, while I am more than willing to answer all your inquiries as best I can, your questions often anticipate points which I have in mind to cover later and thereby cause diversions, which, in this instance, I frankly admit are injurious; they injure the continuity, and hence the scenic beauty, as well as the boundary lines, of my argument. (Laughter.) Now, before I come to the questions of rates I wish to emphasize further the objections to any restriction upon importation. It is clear, from what has been shown, that discouragement of importation cannot

serve any public interest. It cannot help to preserve navigation, nor any boundary line, nor help military defense, nor help to preserve scenic beauty. On the contrary, it is positively repugnant to both our public and private interests. That country will permanently enjoy the advantage of this as yet unused power which first pre-empts it by actual use. The next year or two is to decide this question and the decision depends upon the fact of whether you continue provisions prohibitive or restrictive of importation. It is clear, then, that any such restrictions are bad policy. Even from an American viewpoint alone, the interests of this country and of the people of the State of New York demand that we should get hold of this power as quickly as possible. But there are other objections which are conclusive against any attempted restriction or prohibition by Act of Congress. I refer to the legal objections. This special and localized prohibition which is suggested is arbitrary and unreasonable. It does not treat all citizens alike in regard to the same subject matter. It is a special restriction imposed for the mere purpose of asserting the power of restriction. There is no demand for it, there is no need for it. No one appears here to advocate it, except the representative of that association of self-appointed guardians of a theory prevalent eight or ten years ago, but which theory has been exploded by the careful surveys and reports of the War Department; and the chief of engineers now tells you that, if this restriction is not removed immediately, this country will lose forever the use of this power, and that such restriction will not, in any degree, limit the total diversion at the Falls.

But, what is even more important, any prohibition of or restriction upon importation is contrary to the spirit and terms of the Treaty of 1909, by which this country and Great Britain agreed upon the limitations to be allowed by either country with respect to the use of power at Niagara. All these questions, including that of importation, were

discussed and passed upon. It was decided that it was neither necessary nor expedient to restrict importation and such restrictions were omitted from the Treaty. That Treaty spoke the promise and policy of each country to the other. Each country said to the other that Canada might divert 36,000 feet, that we might divert 20,000 feet per second, and with those amounts as a maximum each country might fix limits on its own side, but that in every other respect the rights and privileges and opportunities of each country should be left free. The idea was that the Canadians could use their 36,000 feet to supply a demand wherever they might find it; and the American market was in mind. By a prohibition or restriction upon importation of power from Canada to this side we assert the right not only to control amounts of diversion upon this side but also upon the Canadian side. We deprive the Canadian investors of the market with reference to which the Treaty was made. For Congress, after the Treaty, to attempt to control or restrict the intended use by the Canadians of their share of the total diversions allowed (as by restricting importation) is not keeping good faith with the other party to the Treaty. It is an invasion of the rights of Canada and of the Canadian investors, contrary to the Treaty.

Developments and construction proceeded upon the Canadian side on the theory that the demand for power on the American side might be freely supplied by Canadian investors. This proposed legislation is for the purpose of carrying out the Treaty provisions, to give effect to the Treaty insofar as legislation is required. Importation should be free, therefore, not only because it is wise and consistent with the Treaty, but also, because any prohibition or restriction upon importation would be repugnant to the spirit and terms of that Treaty.

Mr. Cooper. Mr. Brown, I don't want to "divert" you, but I would like to have your opinion as a lawyer,

if you are willing to give it to this Committee as such, as to the power of Congress to regulate rates. I am sure that question is going to be discussed in the House, and realizing your ability as a lawyer I would like very much to get your opinion.

Mr. Brown. Now, I want to stick a pin right there because that is my very next proposition.

Mr. Cooper. I am glad to hear that.

Mr. Brown. You mean a regulation of rates in connection with a restriction upon importation or upon the use of the extra 4400?

Mr. Cooper. In both instances.

Mr. Brown. Well, let us take importation. I say the importation restrictions should be removed and there should be nothing said about tariff, rates, tolls or other restrictions. That is a legal and business-like proposition. Now, in this instance you could not justify a charge on the ground of a tariff. Congress cannot say that potatoes brought over the boundary line at one place should be subject to a charge to which the same goods brought over the same line at a point 100 miles away would not be subject. The control of the tariff is not an arbitrary one.

Now, "toll" comes out of something of ownership. Now, no lawyer would say that either the United States Government or the States owned the waters. Nobody owns the waters; the riparian owner does not *own* it; he owns the *use* of it, the right to use it; the Government does not own the waters but it has only the right to prevent unreasonable interference with navigation. There is no basis for any charge based on Government or State ownership.

Mr. Difenderfer said the other day: "Aren't they going to pay for this water that we are giving them?" Why, as a lawyer I would say: "In the first place, you don't own the water. In the next place, you don't *give*

it to them." Why? Because the right to its use belongs to the riparian owners. Neither the Government nor the State of New York has any ownership of the water itself and neither could impose a toll or charge for its use.

Next, can the government of the United States regulate the rates? I say "No," for two reasons. In the first place the United States has no power to regulate rates within the State of New York. That power cannot be based on any power to regulate scenic beauty even if the latter power existed in Congress. But it does not. If the Government of the United States has the right to regulate the waters at Niagara to protect scenic beauty—much more, if it has a right to prohibit on the ground of preservation of scenic beauty—then every water power upon a navigable stream in the United States, every waterfall, which proportionate to its size and character has value as a feature of the landscape, can be prevented from being used for water power on the ground of preservation of scenic beauty.

Mr. Cooper. Has the United States any right to prevent importation of power from Canada?

The Chairman. Well, it has done so.

Mr. Cooper. I am speaking about rights.

Mr. Brown. That is a tariff question. It is a commerce question. We say "Yes," if it is general. But do you suppose this is the only locality where power is being imported?

Mr. Cooper. No, but it would seem to me that they would have the right also to name the conditions under which they shall grant the permit.

Mr. Brown. Has the Congress of the United States a right to say that Jim Jones shall not, at the Town of Smithville, on the line, bring across daily ten barrels of potatoes to this side of the line?

Mr. Cooper. That is not a parallel case.

Mr. Brown. But that is what they are doing here. Now, if you have a general law which applies to all people equally, then it becomes a tariff proposition. Gentlemen, I am not trying to ram that proposition down your throats, but I am simply trying to tell you to pass that for a moment and listen to the equities of the question.

Mr. Cooper. Suppose in passing a statute of that kind, just the naked law would provide for the regulation, and there would not be in the statute any statement of the motives of the legislator—whether it was for scenic beauty or whether it was a matter of discretion in carrying out its power under the commerce clause. Courts don't inquire into the motive; if the law is constitutional it stands.

Mr. Brown. I would not say "Yes" unqualifiedly. I would say they hesitate to do so, but when they find a ground which is apparently unconstitutional and illegal, they set it aside.

Mr. Cooper. If, on the other hand, the law is *not* on its face absurd and ridiculous, but could be fairly interpreted as carrying out the commerce clause, or navigation, the court will sustain it upon this proposition: that a law shall not be set aside unless it is unconstitutional beyond a reasonable doubt?

Mr. Brown. Yes, sir; that is the tendency under the law. Now, then, you and I won't differ on that; but notice how I want to appeal to your sense of fairness and right, and I am not hypocritical. The Burton Act upon its face shows that it was an act by the United States Government to protect scenic beauty. The treaty upon its face and by the terms in which it was drawn says it was made solely with reference to scenic beauty. That Act and that Treaty were frank in expressing their objects. The engineers of the United States have told you that there is no practical ground why you

should legislate on the ground of protecting navigability or boundary streams, and the only ground any one ever claims here is scenic beauty. Indeed, the only purpose of this proposed act is to carry out the Treaty. Now, if I should hear a gentleman on the other side of the argument say to you: "Mr. Cooper, the Burton Act was not sharp and shrewd enough, as a matter of fact there was no ground of legislation except to protect scenic beauty, but they gave this away on the face of the Act. Then when they came to the Treaty, they fell down too; there was no sufficient ground, in law or in fact, based on scenic beauty; but they gave themselves away. Now beat them. Get up a law that will enable us to get something that is in fact unconstitutional but which may be made to appear to the courts as otherwise, by concealing its effect and object." If anyone should tell you that, I should say that he is not honest and he has asked you to do something that is not honest; and I don't believe that this Committee of Congress will recommend to the House to do what no man who is not dishonest would do. Am I clear?

Mr. Cooper. You are pretty pointed, though.

Mr. Brown. Absolutely, now, I did not mean anything personal. I appreciate the fact that you were merely speculating about possibilities.

Mr. Cooper. That is all right, but I had in mind the tax on state banks, to get revenue and for other purposes; but on the face of it it was unconstitutional and the motive of the legislator was for the purpose of smashing the state banks. On the other hand, take the oleomargarine law, and the preamble of it. Everybody could see it was not for revenue; it was simply to make it very embarrassing for the oleomargarine people to do business and to compel them to state what their article is. Now, then, Congress passed a law—no, two laws, and they were attacked and went to the Su-

preme Court. The arguments of counsel were that the motives of the legislator were unconstitutional. The Court said they did not have the right to consider the motives, and so they sustained them both. So in this particular case, if we should pass a statute and leave out the mention of scenic beauty and control that, in the exercise of our discretion under the powers granted by the Constitution, would it be unconstitutional?

Mr. Brown. I cannot tell what the result would be but I hope mighty well it would be declared unconstitutional.

But why this seeming anxiety, at times, to get around the constitutional barriers which are intended to protect property rights? Why, in Canada, where there are no constitutional limitations to legislation, and where Parliament may, if it chooses, diminish and even destroy, private property rights and investments, and where the courts have not the power to declare a legislative act invalid, once it should be seen that the effect of any proposed legislation was to take away such rights, especially after investments made, no committee of Parliament, nor Parliament itself, would consider it with favor for a moment. But here in this country, we have express constitutional prohibitions against legislation the enforcement of which would impair contracts or injure or destroy property rights, or discriminate between citizens of the same class, and we have a judiciary whose privilege and duty are to see to it that no legislation, state or national, which is repugnant to such express prohibitions, shall be enforced. Why, then, should we, before a Committee of our national Congress, be trying to solve the puzzle of how Congress might do something indirectly which it is confessedly not within its powers to do directly? Why this anxiety, disclosed before a body of men here, who are sworn to protect the Constitution and laws

of this nation, and property rights established under those laws, to get around the Constitution and the courts in order to legislate against, or regardless of, vested property rights? And this, too, with reference to the rights of investors who do not ask for the protection of their full legal rights, but only to the extent of about one-half, that is, to the extent that investments and installations have already been made! Indeed, they do not ask you in this proposed legislation expressly to protect even that remnant of their right. We ask only that you should not so legislate as, in terms, to prevent a fair consideration of our rights and equities in connection with the distribution of this water power. May I close, please?

The Chairman. I hope Mr. Brown will be allowed to proceed.

Mr. Legare. I don't understand you to contend that we are without authority to prohibit the importation of power?

Mr. Brown. I would not say that, if it is general.

Mr. Legare. Now, then, the other question that was asked you: If we have the power to prohibit importation, why have we not the power to put restrictions upon it? I am asking you this question because we want to be in a position to answer questions in the House.

Mr. Brown. Now, I have not investigated these questions much, but my opinion as a lawyer is, that with general importation restrictions proper conditions may be attached; but taking the facts of the case here, the only purpose could be to protect scenic beauty, and the restriction on importation is a special and local one. But, gentlemen, even at that, we, the Niagara Company, say this: that if you will only leave the rates to the State Commission or the proper body in New York and give us a chance to be heard, the question will be

decided on the facts, which you cannot sift out here, and our equities and rights will have a chance to be preserved. Now, gentlemen, give us some chance of relief, if we shall show we are entitled to it, and place the limit of diversion allowed to any one company at 10,000 instead of 8,600. There should be no restriction upon importation. More than that, the amount fixed by the Treaty is not a diversion of 20,000 cubic feet in any one second; it is a diversion *by the day* at the *rate* of 20,000 feet per second. Do you see the difference?

A Member. A good deal.

Mr. Brown. Suppose the 20,000 feet were all granted to one company. Under the Burton Act provisions that company could only divert for any one second that amount although the average for the day was much less.

You know how factories are run; you know what the peak of the load is in one day. You know this: that so far as affecting Lake Erie and the river, for scenic beauty, the variation of two or three hours cannot, at the end of the day, have any practical effect. The Treaty says that the diversions shall be "not exceeding a daily diversion *at the rate* of 20,000 cubic feet per second." The present permits are granted on the assumption that it is a limit of 20,000 feet in any one second. So far as it affects these other conditions of general public interest, it does not amount to anything, but it does hamper the efficient use of the power plants.

Mr. Cooper. Now, suppose you only took 40,000 a second for half a day and the other half of the day you shut up; what would be the average?

Mr. Brown. The largest part of this power is 24-hour power.

Mr. Barton. Most of it.

Mr. Brown. Mills and factories to-day do not shut up in the night time; they are working all the time. They work longer hours where they can get more and

cheaper power; but it happens that about five or six o'clock the peak of the load comes up,—only slightly in this case. But the Treaty provisions are, in daily diversions *at the rate of 20,000 c. f. s.*

May I suggest that the Act should substantially contain what is contained in this proviso, which reads as follows:

"That in fulfilment of the purposes of Article V of said treaty, the several amounts of water of the Niagara River within the State of New York above the Falls which may be diverted under the said act or under permits of the Secretary of War in pursuance thereof shall be limited only so that the total diversion within the State of New York of the waters of said river above the Falls of Niagara for power purposes shall not exceed in the aggregate a daily diversion at the rate of twenty thousand cubic feet of water per second and that the Secretary of War shall have authority from time to time to grant revocable permits for such daily diversion in several amounts not exceeding in the aggregate said twenty thousand cubic feet per second, nor to any one individual company or corporation as aforesaid a maximum amount at the rate of ten thousand cubic feet per second; such grants to be made and continued only with due regard to the rights of the State of New York and its grantees in said waters of said river, and so that no monopoly shall be thereby created or continued; and provided further that the quantity of electrical power which may by permits be allowed to be transmitted from the Dominion of Canada into the United States may and shall be any and all of the power by said treaty authorized to be developed within the Province of Ontario from said waters of said river, that shall not be used or be required for use in the Dominion of Canada."

And may I ask also to put in a statement by Mr. Philip P. Barton and Mr. Egbert, which is substantially a summary of the principal points contained in Senate Document 105 and House Document 246—a summary for convenience, and ask that it be printed and made a part of the record?

The Chairman. There is no objection; it will be printed.

Mr. Brown. And this is drawn up by Mr. Francis Lynde Stetson, of New York, a director and stockholder of this company. Some time ago he wrote these five or six pages which show the righteousness of some of these provisions just suggested. Might I ask that they be put in the record?

The Chairman. They will be printed, Mr. Brown.

Mr. Brown. And Mr. Chairman, may I ask this: If I think of anything else may I put it in writing and send it in and have it made part of my statement in the printed record?

The Chairman. Yes, sir.

[The papers—Barton, Egbert, Stetson—offered and received into the record next follow.]

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62nd Congress, 2nd Session—In Re Niagara Falls.

*Transcript from Record of Hearings before Committee on Foreign
Affairs on House Bills to Enforce Treaty of 1909.*

**CLOSING SUMMARY by ROME G. BROWN in behalf of
THE NIAGARA FALLS POWER COMPANY and
CANADIAN NIAGARA COMPANY.**

MR. CHAIRMAN AND GENTLEMEN OF THE COMMITTEE:

After listening to General Greene's admirable summary of the facts shown at this hearing and of his logical conclusions therefrom, I felt that little if anything could be added to emphasize the justice of the position which is here taken by the companies which I represent. However, despite the indisputable facts which have been shown, some of the questions which have been asked and quite a number of statements that have been made during the hearing, would indicate that there is still some misapprehension in regard to the attitude of these companies toward the questions which are before you. Let me therefore briefly summarize certain of the points.

1. The situation of The Niagara Falls Power Company:

This company has certain vested property rights by virtue of (1) its riparian ownership, (2) its grants by the next lower riparian owner, the Hydraulic Company, and (3) patents and grants from the State of New York, which State is riparian owner below, both it and the Hydraulic Company, and which State also holds whatever sovereign interests there are of use or control in the waters of Niagara River upon the American side, subject only to the sovereign right of the Federal Government

to prevent unreasonable interference with navigation. These property rights, as defined by the law and as described in the various grants referred to, include the right to take from the Niagara River above the Falls a quantity of water sufficient to make 200,000 horsepower and to discharge the same below the Falls by means of a tunnel passing by and through the lands of the two lower owners, that is, of the Hydraulic Company and of the lands of the State of New York used for a park. These rights were acquired previous to the year 1900, and a plant had been constructed and put in operation, requiring then, as it now does, at least 10,000 c.f.s. of water to operate the same on an economical basis, although that quantity is not sufficient for its maximum capacity. It was thus operating that plant for years before the passage of the Burton Act in 1906, but since the passage of that act has drawn only 8,600 c.f.s., submitting temporarily to the terms of that act until the Treaty should be made, as contemplated by that act, adjusting between the two countries the matter of diversion. It claims to operate by virtue of its riparian rights, although permits under the Burton Act have been accepted and complied with, relying upon the faith that its rights and equities would be recognized in the final adjustment of the matter under the terms of the Treaty. The Treaty of 1909 recognized the injustice of the restrictions of the Burton Act, as neither expedient nor necessary to preserve scenic grandeur, and as unjust and inequitable to this company, and fixed the limits of diversion at a quantity which would allow this company 1400 c.f.s. more and the Hydraulic Company 3,000 c.f.s. more and thus allow each company to operate at its normal economical capacity of 10,000 c.f.s. for this company and 9,500 for the Hydraulic Company. No other power plants exist on this side and none could be constructed for the purpose of utilizing the 4,400 c.f.s. increase provided in the treaty over the 15,600 fixed by the Burton Act as the total diversion on this side, the additional quantity being too small to warrant the expense of any new plant.

It has been assumed and stated in newspaper articles, in

statements by representatives of the Civic Association, and even by a Senator of this Congress (in a statement made in public while these hearings were in progress), that this company is asking for an unreasonable increase in the amount of diversions allowed on this side with the intention of further installations in order to utilize such increase, and that its position here is one of a further "attack" upon the scenic grandeur of the Falls. You, gentlemen, who have heard the facts here know this is not true. The Treaty fixes the total limits of diversion upon this side so as to forbid any further installations than had been made prior to the Burton Act. Although this Company claims the legal right to double its installation and to operate the same, it asks here only that the Treaty limits be observed and that thereby it may be enabled to operate economically its installation which had been installed and put in operation before the question of scenic grandeur was ever thought of in Congress. This Company originally installed with particular respect for scenic grandeur and protected the landscape and scenic beauty of the Falls, although at great expense and loss of head. The undisputed facts presented here show that the extra amount of diversion up to the Treaty limits will not affect scenic grandeur nor any public interest.

2. Situation of the Canadian Niagara Power Company:

Before the Burton Act was thought of, this Company had installed and had in operation a plant upon the Canadian side taking its water from the pool below the upper crest, so that it could not possibly have any effect upon navigation. It also constructed with regard to scenic beauty. It acquired its riparian rights solely from the Canadian Government, and as consideration therefor agreed to reserve one-half of its developed power for use in Canada when required. This Company, as the other two Canadian investors, were intended to be protected by the Treaty of 1909, so far as consistent with the public interests involved in the question of scenic grandeur, and therefore that Treaty made the total limit of diversion upon the Canadian side

36,000 c.f.s., which was no more than sufficient to supply the demand of the three installations already made and projected upon that side by those three companies. The limits of total diversion upon both sides having been fixed by the Treaty, the excuse for prohibition of importation to the American side ceased to exist; and therefore the treaty contained no such prohibition. This was a concession to, or rather proper adjustment with Great Britain in behalf of Canada to protect, not only the public interests of Canada, but the interests of Canadian investors. It was an adjustment also acquiesced in by this country in making the Treaty, because it was recognized to be for the public interest of this country, where industrial development had created a demand which would absorb all the power developed upon this side and all the power that could be imported from Canada. This Company, therefore, with the other Canadian companies, join with the distributing companies upon the American side, to demand that the question of importation be left as the Treaty left it,—without any prohibition or restriction.

3. The equitable position of both the American and Canadian Power Companies:

Certain facts have been demonstrated at this hearing:

(1) That the total diversions allowed by the Treaty can have no appreciable effect upon navigation or upon the integrity of the boundary line nor injure military defense,—that therefore there is no ground for Federal interference, the right to which is limited to preventing an unreasonable interference with navigation;

(2) That, although the protection of scenic grandeur is not within the proper scope of Federal Legislation, (for if it belongs to any sovereign power, in this case it belongs only to the State of New York) nevertheless the total diversions allowed by the Treaty will not have any appreciable effect upon the scenic grandeur of the Falls, and in

any event the extra 4,400 feet allowed by the Treaty on the American side can have no effect; and that, with artificial diversions so limited, the danger to scenic grandeur lies wholly in the effect of natural causes, like erosion, which dangers, together with any speculative injury by diversion, can be averted by artificial means;

(3) That the total diversion allowed on the Canadian side will surely and quickly be made and that over that matter Congress can have no control and that any restriction or prohibition upon importation to this side is objectionable for the following reasons:

(a) The entire diversion upon the Canadian side will surely be made within a short time, and a prohibition of importation will not help scenic grandeur or any other public interest;

(b) The American market is ready and is now demanding all the power that can be imported beside all that can be developed on this side. The demand is increasing faster than the power can be furnished, even with free importation. With importation prohibited, industrial development stops upon this side and progresses upon the Canadian side. That one of the two countries which first gets hold of the power will keep it;

(c) The cutting off of the supply which would exist otherwise than for prohibition or restriction, tends to increase the price;

(d) The prohibition cannot be sustained on the ground that it is a tariff regulation, for it is not a general prohibition but a special and local one;

(e) It is repugnant to the spirit and terms of the Treaty of 1909 by which each country agreed with the other that each might have the privilege of a certain limited diversion, with the American market in mind, and Canadian investments were made on the strength of the right to import, and the limit of that right was impliedly fixed by the Treaty. A prohibition by Con-

gress is simply saying to the Canadians that we have given them the right to divert 36,000 on their side but we will attempt to control the amount of that diversion, temporarily at least, by a provision repugnant to the Treaty and at the same time control the diversion upon this side as we see fit;

(4) It has further been shown, that as the diversion of the extra 4,400 c.f.s. allowed by the Treaty on this side cannot affect scenic grandeur or any public interest, the treaty amount should be observed; that however, this is too small an amount to make any new power plant feasible. The navigation, sanitary and power project suggested by Mr. Bowen is not only illegal and impracticable but is entirely useless as a sanitary measure, as stated by Dr. McLaughlin of the United States Health Bureau. More than that, it is not only chimerical but is proposed by a company that has obtained no real estate rights whatever and involves a \$35,000,000 proposition based upon \$100,000 capital, which capital has been paid in just enough to make a few maps and pay promoters. The 4,400 feet increase must of necessity go to the present plants, and of rights should go to them in such quantities as to allow normal economical operation of their plants as the same were installed before diversions were attempted to be limited;

(5) The vested legal rights of The Niagara Falls Power Company (and I assume it is the same with the Hydraulic Company) are urged here, not for the purpose of getting specific legislation allotting the extra power to them directly, but for the purpose that their rights and equities may not be ignored to the extent that the proposed Act shall prevent those rights and equities being taken into consideration in the future by some official person or body to whom the authority of allotment of this power shall be delegated. It might be unwise for Congress to attempt to say that these companies should have the extra water, or in what proportions. It would be still more unwise to make any

provisions so that these two companies, or either of them, should be shut off from the extra power, or that one company should be preferred to the other. That should be left to the good judgment of the person or commission authorized to make the allotment, with the opportunity for hearing to these companies and to any other interests that might appear, whether such authority be the Secretary of War or a New York Commission or the State itself. Consequently the amount limited to be permitted to any one company should not be less than 10,000 cubic feet as a total. The present limitation of 8,600 to any one company would mean that some of the extra 4,400 cubic feet could not be allotted to any company; for the present permits to these companies are respectively 8,600 and 6,500, while their normal economical capacities are respectively 10,000 and 9,500, and the 4,400 is not sufficient to warrant any new plant by any new company, and much less would a lesser quantity warrant such new construction;

(6) While it would be hypocritical for either the Niagara Company or the Hydraulic Company to claim that they would not really like to have the entire 4,400 feet, it would be unfair to either company to include any provision in the Act which would of necessity result in giving to the other company the entire 4,400 feet. Such would be the effect of a provision giving it to the company which operates at the highest head, and therefore with the most efficiency, because that would exclude the Niagara Company, whose equities are particularly strong upon this point. The Niagara Company constructed at a loss of some 50-foot head for the very purpose of preserving scenic beauty and set its works far up the river, using a long canal by which some head was necessarily lost. This was done under the advice of the best engineers and landscape artists. The Niagara Company would ask of the 4,400 feet only 1,400 and would willingly leave the other 3,000 to the Hydraulic Company. It would be absurd and unjust that legislation.

enacted to protect scenic grandeur, should penalize a company which had shown the most regard for that interest and in doing so had sacrificed in efficiency, by providing that its very sacrifice for that public interest should be made the ground of discriminating against it and in favor of another company whose works, in appearance and in location, had been installed comparatively with a disregard for scenic grandeur.

4. The Question of Rates:

It appeared conclusively that the State of New York, through its Public Service Commission, has full power and authority to regulate rates to consumers, and that there is no need of any exercise of such power in this matter by Congress, even if it had authority. Such attempted exercise by Congress would be an interference with the right of New York. This applies both (1) to rates for power produced on the American side and (2) rates for power imported from on the Canadian side.

(1) *As to rates for power produced on the American side:*

These rates, being for power produced and distributed on the American side and in the State of New York, are manifestly within the sole jurisdiction of that State. As a general rule the producing company sells in bulk to a distributing company, as for instance, The Niagara Falls Power Company delivering to the Cataract Power & Conduit Company at the city limits of Buffalo at a certain price at that point, which includes the transmission from the producing plant to the city limits. With the rate thus fixed at the city limits, the public can have no concern if the ultimate cost to the consumer charged by the distributing company is a fair rate. The price at the city limits is \$16 per h.p. per annum, and the cost of such transmission alone, including a fair return on the necessary transmission line and apparatus, is about \$6.50 per h.p. (see statement of Mr. Barton). This makes the charge

figured at the bus-bars of the producing company about \$9.50 per h.p., which is approximately the same as that paid by the Canadian Hydro-Electric Commission to the Canadian producers. The prices paid by consumers in the city of Buffalo are shown by the following schedule of rates which are published by the Cataract Power & Conduit Company and which are uniformly adhered to:

TWO CHARGE RATE

FIRST CHARGE FOR DEMAND

\$1.00 per kilowatt per month for the maximum two-minute kilowatt demand during the month.

SECOND CHARGE FOR ENERGY

For	1,000 K.W.H. or less per month	.....	\$.02	per K.W.H.
Excess over	1,000 " up to 2,000 K.W.H.	.....	.015	"
For	2,000 "	.....	.015	"
Excess over	2,000 " 3,000 "	.....	.012	"
For	3,000 "	.....	.012	"
Excess over	3,000 " 5,000 "	.....	.01	"
For	5,000 "	.....	.01	"
Excess over	5,000 " 10,000 "	.....	.008	"
For	10,000 "	.....	.008	"
Excess over	10,000 " 20,000 "	.....	.0075	"
For	20,000 "	.....	.0075	"
Excess over	20,000 " 40,000 "	.....	.007	"
For	40,000 "	.....	.007	"
Excess over	40,000 " 80,000 "	.....	.0066	"
For	80,000 "	.....	.0066	"
Excess over	80,000 "	.....	.0064	"

EXAMPLE—A 75 K.W. (100 H.P.) motor running 10 hours per day, taking 75 K.W. (100 H.P.) at times as a maximum, but averaging throughout the day 56 K.W. (75 H.P.) would in 25 days per month consume current as follows:

$$56 \times 10 \times 25 = 14,000 \text{ K.W.H.}$$

The charge for this at the above rates would be as follows:

Demand Charge	75 K.W.	at \$1.00	.....	\$75.00
Energy	10,000 K.W.H.	at .008	.....	80.00
	4,000 K.W.H.	at .0075	.....	30.00

Total Monthly Charge.....\$185.00

DEMAND RATE

Applicable to 24 hours use of power, and based on monthly maximum demand.

When the demand equals or exceeds 100 H.P.

at the rate of \$36.00 per e.h.p. per annum

When the demand equals or exceeds 200 H.P.

at the rate of \$32.50 per e.h.p. per annum

When the demand equals or exceeds 300 H.P.

at the rate of \$30.00 per e.h.p. per annum

When the demand equals or exceeds 500 H.P.

at the rate of \$27.50 per e.h.p. per annum

Service is delivered to consumer's premises at 2,200 volts, 3 phase, 25 cycles, alternating current.

The above was procured and furnished me by Mr. Barton in accordance with the suggestion made by some of the Committee, to be included in the record of this hearing. These rates are no higher than many of the rates to consumers in Canada charged by the distributing companies there for power furnished by the Hydro-Electric Commission, whether furnished directly by that commission or through subsidiary distributing companies. The Toronto rates are even higher, and at Bridgeburg the price for quantities of 200 h.p. is \$39 as against \$32.50 in Buffalo (see Mr. Barton's statement). Under the strictest construction, the American companies, producers and distributors, are entitled to a fair return on their investment, including a fair profit. In Canada, theoretically, the Hydro-Electric Commission supplies at cost. On this side it may be true in one sense of the word that there are two "profits"; but it is clearly shown that each company only gets a fair profit on its capital investment and that the cost of such investment in Buffalo for the distributing company is very great, being increased by the obligation to put conduits under ground and other expensive requirements. If this expense were not incurred by the distributing company it would have to be by the producing company, and the two profits, so-called, are both only equal to the one profit which would be allowed if the producing company distributed and delivered to the consumer (see statement of Mr. Barton and Judge Kenefick). As a matter of fact no one is demanding a change of rates. It has been impossible to get 100 consumers of power furnished by the Cataract Power and Conduit Company to enter a protest. The question of rates is manifestly a political one (see statement of Corporation attorney Hammond). In any event all the machinery and power for investigating and regulating rates, as well as the proper jurisdiction thereof, rests with the State of New York and its Public Service Commission. On the American side the State already has its return in State taxes as well as

free electricity for light and power, and also for use of the State in the State Reservation at Niagara and the public buildings thereon (see Chapter 513, New York Laws 1892), and to the City of Buffalo and other cities in taxes upon liberal assessments not only upon the property of the Power Company but also upon the property of industries attracted by cheap power.

The standard 10-hour meter power at a rate which affords a maximum use of 100 h.p. and an average use of 75 h.p. for a month of 250 hours, amounts at the city of Niagara Falls to \$144.17 as against over eight times that price in Boston, six times that rate in Philadelphia, over four times that rate at Chicago and New York, and nearly four times that rate at Cleveland. At Buffalo the rate for the same amount of power is \$185, the extra price over Niagara Falls being on account of the extra cost of transmission to Buffalo, but the Buffalo rates are only a small percentage of rates in other cities not located so as to avail themselves of the Niagara Power.

The industrial growth of the cities using Niagara power from 1900 to 1905 is shown by the following figures, showing values of manufactured output:

Buffalo.....	from \$126,156,839 to \$172,115,101
Niagara Falls.....	" 8,540,184 " 16,915,786
Lockport.....	" 5,352,669 " 5,807,908
Rochester.....	" 59,668,959 " 82,747,370
Syracuse.....	" 26,546,297 " 34,823,751

In 1909 these figures for Niagara Falls had increased to \$28,652,000 or about 80%. Similar increases are shown in the other cities. Most of this increase was prior to 1907, since which time the restrictions on importation and the limitations upon this side, fixed by the Burton Act, have kept industrial development in these cities comparatively at a standstill.

(2) Rates for Power Produced on the Canadian Side:

As already shown, the Canadian Hydro-Electric Commission take the power distributed upon the Canadian side at the bus-bars of the producing plant and pay all the expense of construction, maintenance and operation of transmission facilities. More than that, the Canadian plants are located upon the property belonging to the province of Ontario and hold under leases, instead of being independent proprietors, as are the American power companies. As a consideration for this concession, the Canadian companies are supposed to deliver certain quantities to the Canadian Commission at cost. However it has been shown that, considering the transmission by the Niagara Company on this side to the point where the charge is \$16 per h.p. per annum, delivered in large quantities under contract, the price delivered in bulk by the producing companies is practically the same on this side as upon the Canadian side. It has also been shown that the cost to the consumer upon the Canadian side argued in favor of American private management as an economy and an advantage to the consumer.

As to the price to the consumer on this side of imported power, it goes without saying that the price delivered on this side in bulk could not possibly be the same as the price delivered in bulk at the bus-bars of the producing plant on the Canadian side, for the cost of transmission across the river is expensive and a fair return upon such cost of installment and operation must be added (to fix the price of power delivered at the American side of the river) to the cost of delivering the same power on the Canadian side; and for power delivered in bulk after further transmission to the City of Niagara Falls or the city of Buffalo a further cost must be added. The figures already given show that the prices prevailing for delivery at the city limits of Buffalo, or to the consumer in the city of Buffalo, cannot be less for power imported from Canada than that which is charged for power produced on this side.

The whole discussion and showing with regard to rates shows that the demand and need is not for lower prices but for more power, and that *this demand is for all the power that can be produced upon this side and for all the power that can be imported from the other side*, free from prohibition or restriction, up to the full amounts provided in the Treaty of 1909.

5. Scenic beauty plus industrial grandeur:

Sentimentalists who, without investigation and with misconception of the facts, blindly worship an exploded theory and echo a mere hue and cry, as do our friends the president and secretary of the Civic Association, phrase and quote phrases eloquently framed upon the grandeur of the world-renowned Niagara. The theory upon which their campaign was based prior to the Burton Act of 1906,—that the scenic grandeur of the falls was in danger by reason of diversions for power—has been exploded by three years of investigation and reports by the United States survey, upon the basis of which the provisions of the Treaty of 1909 were made. Those expert conclusions have been confirmed by two years of further careful investigation and experience. They conform with the experience and observation of every observer of the Falls,—that no appreciable change has been caused to the scenic grandeur by power diversions. Nevertheless by an appeal to prejudice these agitators have brought forth denunciations from the press and have falsely created the impression that the two American companies have made and are now making an “attack” upon Niagara; that because they are seeking to have the Treaty provisions observed and confirmed by a new act which shall replace the mere conjectural provisions of the temporary measure, known as the Burton Act of 1906, with an Act that shall recognize the limitations considerably, conservatively and expressly fixed by the Treaty, they are asking authority for unlimited diversions with a view to further installation. The cry has been sent forth that Niagara is again in danger, although that question has been scientifically passed upon and the provisions necessary to avoid

such dangers were fixed and established by the Treaty which it is now sought to have enforced. They ignore the fact that The Niagara Falls Power Company have not made any additional installations since long before the Burton Act was passed, and that its installation is for only one-half the capacity to which it has a right under the law and that it only asks here for a small fraction of the increase fixed by the Treaty in order properly and economically to operate its installation. They fail to recognize that that Company, from the very start, has studiously and consistently and continuously shown its regard for the scenic grandeur of the Falls, even at expense and loss to itself, voluntarily incurred before others had raised the question of scenic grandeur. No one has more appreciation or regard for the beauties of Niagara and for their preservation than the officers and stockholders of this Company. Its contest here is not antagonistic to the cause of scenic beauty but for another grandeur, the utilization by man and for the benefit of man and communities of the energy which is daily going to waste over the Falls; not all that energy, but only such use thereof as is in fact, and as has been found by scientific investigation to be, entirely consistent with the preservation of scenic beauty and of every other public interest. The industrial grandeur which they stand for is not inconsistent with the cause of scenic beauty, but it is one which appeals to the highest sense of beauty, power and achievement.

Mr. H. G. Wells, in *Harpers' Weekly* of July 21, 1906 said:

"The dynamos and turbines of The Niagara Falls Power Company, for example, impressed me far more profoundly than the Cave of the Winds; are, indeed, to my mind, greater and more beautiful than that accidental eddying of air beside a downpour. They are will made visible, thought translated into easy and commanding things. They are clean, noiseless, and starkly powerful. All the clatter and tumult of the early age of machinery is past and gone here; there is no smoke, no coal grit, no dirt at all. The wheel pit into which one descends has an almost cloistered quiet about its softly humming turbines. These are altogether noble masses

of machinery, huge black slumbering monsters, great sleeping tops that engender irresistible forces in their sleep. They sprang, armed like Minerva, from serene and speculative, foreseeing and endeavoring brains. First was the word and then these powers. A man goes to and fro quietly in the long clean hall of the dynamos. There is no clangor, no racket. Yet the outer rim of the big generators is spinning at the pace of a hundred thousand miles an hour; the dazzling clean switchboard, with its little handles and levers, is the seat of empire over more power than the strength of a million disciplined, unquestioning men. All these great things are as silent, as wonderfully made, as the heart in a living body, and stouter and stronger than that. * * *

"When I thought that these two huge wheel-pits of this company are themselves but a little intimation of what can be done in this way, what will be done in this way, my imagination towered above me. I fell into a day dream of the coming power of men, and how that power may be used by them. * * *

"For surely the greatness of life is still to come; it is not in such accidents as mountains or the sea. I have seen the splendor of the mountains, sunrise and sunset among them, and the waste immensity of sky and sea. I am not blind because I can see beyond these glories. To me no other thing is credible than that all the natural beauty in the world is only so much material for the imagination and the mind, so many hints and suggestions for art and creation. Whatever is, is but the lure and symbol towards what can be willed and done. Man lives to make—in the end he must make, for there will be nothing left for him to do.

"And the world he will make—after a thousand years or so.

"I, at least, can forgive the loss of all the accidental, unmeaning beauty that is going for the sake of the beauty of fine order and intention that will come. I believe—passionately, as a doubting lover believes in his mistress—in the future of mankind. And so to me it seems altogether well that all the froth and hurry of Niagara at last, all of it, dying into hungry canals of intake, should rise again in light and power, in ordered and equipped and proved and beautiful humanity, in cities and palaces and the emancipated souls and hearts of men. * * * "

Professor Walter Frewen Lord said in the *Toronto Mail and Empire* of December 4, 1906:

"I went over the Niagara power plant at the Falls the other day. It was a revelation to me. The cataract was

wonderful, of course, but it struck me that the work of man in harnessing it was far more wonderful. It seemed to me the greatest thing that was ever attempted—the greatest thing on earth.”

Reverend J. N. Hallock, D.D., said recently in the *Christian Worker and Evangelist*:

“A new Niagara ‘harnessed’ but not hushed, with its beauty unmarred and its torrential fury undiminished, now greets the astonished eyes of pilgrims to this picturesque region. The hand of the engineer has left the mighty cataract untouched, while adding to the attractiveness of Nature’s greatest wonder. Niagara is practically just as it was ten or twenty years ago, impressive in its combination of picturesque beauty and awe-inspiring grandeur. The rapids and whirlpool still excite the admiring wonderment of men. But there is much more than the Falls and the scenic beauties of the river to interest and charm those who visit this new world Mecca.

“I am not sure but that the popular apprehension regarding the possible destruction of the Falls by the power companies has increased the tide of travel in this direction this summer. Thousands of persons, no doubt, actually believed they were gazing upon the cataract for the last time. Natural Niagara is still a spectacle of beauty and power; industrial Niagara is a wonderful demonstration of man’s mastery over the forces of Nature. The works of the engineer which use the waters of Niagara River to drive the wheels of industry are even more spectacular than the cataract itself. * * *

“After rushing the turbine wheels beneath these power houses, developing a total of 110,000 horse-power, the water passes through a tunnel a mile long under the city of Niagara Falls, and empties into the lower channel under the first steel bridge. Over 1,000 men were engaged continuously for more than three years in the construction of this tunnel, which called for the removal of more than 300,000 tons of rock and the use of more than 16,000,000 bricks for lining.

“As these power houses represent the first attempts to ‘harness’ Niagara upon a big scale and embody the latest achievements of electrical engineering, they are visited yearly by thousands and form one of the attractions of the Niagara regions.*

“It is in no small measure due to the energy, courage and perseverance of the directors of The Niagara Falls Power Company and their associate engineers that Niagara Falls owes its present importance as an industrial center.

“Upon October 4, 1890, ground was broken at Niagara Falls, N. Y., for the initial power installation of The Niagara

Falls Power Company. The trial development was for 15,000 horse-power. At that time, three small towns with a combined population of less than 10,000 were contained within the limits of what is now the City of Niagara Falls. The assessed valuation of all three towns was about \$7,000,000. Five years later, the first electrical power from the initial installation was delivered commercially to the Pittsburgh Reduction Company for the manufacture of aluminum. To-day, sixteen years after the breaking of ground for the tunnel, the aggregate amount of power developed by The Niagara Falls Power Company and its allied interest, the Canadian Niagara Power Company, is about 160,000 horse-power, with additional capacity in course of construction amounting to 60,000 horse-power. Niagara Falls is now a city of almost 30,000 inhabitants, with an assessed valuation amounting to over \$20,000,000. Such in brief are some of the results accomplished by the men and engineers who harnessed Niagara Falls. Less than four per cent. of the total flow of water over Niagara Falls has been diverted by these companies, and its beauty and grandeur are unimpaired."

The establishment of the great works of The Niagara Falls Power Company, the pioneer not only in the establishment of great hydraulic and electrical units, but the first projector of extensive power transmission in America, brought forth the following comment in the *New York Tribune* by Mr. Royal Cortissoon, an art critic of the first rank:

" Being utterly ignorant of these things I won't commit the impertinence of pretending to appreciate the genius embodied in those colossal fabrics. All I can tell you is that they made me feel as though I was looking on while some unthinkable Olympian went gloriously mad, in a kind of divine frenzy, and expressed himself in terms raising the art of the Egyptian temples to a higher power, giving to things of overwhelming bulk an immeasurable life and purpose, and somehow putting over them a glamour of the subtlest delicacy and charm. It was like a fairy land created for the pranks of the high gods. It was like a force of nature tamed and held by a silken thread. I won't say it was like the most wonderful thing in the world. *It is itself the most wonderful thing in the world.*"

6. The Campaign of Scare:

It is a significant fact that during hearings extending over two weeks, given the widest publicity, there appeared before

this Committee only two persons who had any other suggestion to make than that the full limitations as to diversion and as to importation, allowed by the Treaty of 1909, should be the basis of the proposed Act of Congress. The first of these was Mr. Spencer, who claimed to be a photographer and engineer, and who explained the extent of the natural erosions of the Horseshoe Falls, and who pretended to state that the change in the appearance of the crest of those falls, which had developed in the past twenty years, was due to artificial diversions of water for power. The value of his evidence, or lack of value, was shown by the fact that he claimed that the barring of the crest upon the Canadian side of the Horseshoe Falls which enabled the Canadian Park Commissioners in 1902 to fill in 250 feet of that crest line for the purpose of improving the scenic effect of that Falls by obliterating certain thin streams which existed only at times of high water, was caused by artificial diversions for power; when as a matter of fact the artificial diversions had not begun at that time.

The only other person who appeared to advocate a retention of the provisions of the Burton Act or anything less than the limitations of the Treaty of 1909 was the Civic Association, through its president and its secretary. They made the same arguments as were made in 1904 and 1905 before any official investigations or reports had been made. During the hearings before this Committee these officers neglected to bring before this Committee any evidence, even by the way of statement, in support of their contention or in opposition to the contention of every other private and public interest which was there represented, the producers and consumers upon both sides of the river, the State of New York, the City of Buffalo and the cities of Windsor, Ontario and Detroit, Michigan, and others,—all urging an act confirming the terms and limitations of the Treaty. The record made by these hearings was conclusively against the contention of these agitators, and in favor of that made by all the representatives of both public and private interests who appeared before the Committee. The record speaks for itself,

but with this the Civic Association was not content. It set out deliberately to throw a scare into the members of this Committee as well as into other members of the Congress. At great expense and with a great deal of labor, as one of the officers has since boasted, it was arranged that this Committee and other members of Congress should be flooded with letters and telegrams in order to overcome the cool and deliberate judgment of the Committee which it seemed could reach only one conclusion from the evidence which had been brought before it at the appointed place and time. The result was a deluge of communications, by letters and telegrams, solicited and procured for the purpose of creating an impression upon the members of this Committee that the public were interested to prevent any extension of the present legislative limitations. There is in fact no such public interest or public demand for any restrictions narrower than those contained in the Treaty of 1909. The public interests and demands may be evidenced by the fact that on the evening of January 26th last, the author of the Burton Bill had been for some days announced to deliver a public lecture upon conservation with particular reference to the preservation of Niagara Falls in a large hall in Brooklyn, N. Y., with a seating capacity of about 3,000. There were by actual count just 47 people present, including the stenographer who was sent to make a verbatim report of his address. Through the same influences have resulted misrepresentations in the public press in regard to these hearings, against which some of those who appeared before you have been obliged to defend themselves.

We may expect that such methods will be continued. But the public have a right to expect that, upon the record which is made at these hearings, this Committee will act judicially, fearlessly and independently and frame and recommend an act with provisions sufficient properly to carry out the provisions of the Treaty and which at the same time shall be sufficiently protective of all the public and private interests involved.

✓ 12.

**BRIEF BEFORE COMMITTEE ON JUDICIARY,
UNITED STATES SENATE.**

SIXTY-SECOND CONGRESS, SECOND SESSION.

AS TO REPORT ON SENATE RESOLUTION 44, A RESOLUTION REQUESTING SAID COMMITTEE TO ANSWER CERTAIN QUESTIONS AS TO THE POWER OF THE FEDERAL GOVERNMENT OVER NAVIGABLE AND NON-NAVIGABLE STREAMS.

QUESTION HERE DISCUSSED.

Can the riparian-right law, which has once been established as the common law of property rights in any State be changed by such State, to the detriment of the property rights of riparian owners as established by such State law?

**BY
ROME G. BROWN,
ATTORNEY AT LAW,
MINNEAPOLIS, MINNESOTA.**

THE STATEMENT HEREIN OBJECTED TO:

"While the common-law rule prevails—in some instances with slight modifications—in all of the States, except the so-called semi-arid or mining States, there can be no doubt that it is in the power of these common-law States, by virtue of their sovereignty, to modify or change the rule of the common law."

Any such statement as a proposition of law with reference to the power of States is incorrect. It is incorrect, because it not only implies, but expressly asserts, the power of a common-law State to change the property-right law of that State with respect to any certain common law riparian right after such right has been defined, fixed and established as a common law property right controlling in that State.

Such statement is incorrect, because of the following principle of law, which is demonstrated by the argument following:

AFTER ANY CERTAIN RIPARIAN RIGHT HAS BEEN, BY THE DECISIONS OF THE HIGHEST COURT OF A STATE, DEFINED AND ESTABLISHED AS PROTECTED BY THE COMMON LAW OF PROPERTY RIGHTS IN SUCH STATE, IT IS NOT WITHIN THE POWER OF SUCH STATE, BY VIRTUE OF ITS SOVEREIGNTY OR OTHERWISE, TO CHANGE OR MODIFY SUCH LAW OF PROPERTY RIGHTS SO AS TO TAKE AWAY SUCH RIPARIAN RIGHTS.

HOW THIS QUESTION NOW ARISES.

By Senate Resolution No. 44, the Senate requested its Judiciary Committee to report answers to three specific questions, to-wit:

"First. Has the National Government any authority to impose a charge for the use of water power developed on non-navigable streams, whether State or interstate?

"Second. Has it any authority in granting permits to

develop water power on a navigable stream to impose and enforce conditions relating to stated payments to the Government, regulation of charges to consumers, and determination of the right to make use of such developed power?

"Third. Has it authority in disposing of any of its lands, reserved or unreserved, necessary and suitable for use in connection with the development or use of water power on a non-navigable stream whether State or interstate, by lease or otherwise, to limit the time for which such development may continue, or to impose and enforce charges for the use and development of such water power, or to control and regulate the disposition of such water power to its consumers?"

The answers suggested to such questions are in substance as follows:

"First. Where the Federal Government is riparian owner on streams, navigable or non-navigable, it may, as any riparian owner may, lease, on such terms as it sees fit, such riparian lands with the usufruct of the water appurtenant thereto; but beyond this riparian right, and subject to the right of the Government under the Commerce clause of the Federal Constitution, the power of control is fixed by State law.

"Second. Surplus water powers incidentally created by dams erected under Federal authority, for the purpose of improving navigation, may be controlled and disposed of under authority of the Federal Government. As to dams on navigable streams erected for water-power purposes, the grant or permit required from the Government is for the purpose, and has the effect, of preventing interference with navigation; and in such cases, a nominal license fee for inspection, etc., is proper; but the regulative power of the Government does not extend to the use of the water for other purposes than of navigation and interstate commerce and the Federal Government has no water power to sell or charge compensation for.

"Third. This is answered by the answer to the first question. The Federal Government has plenary power with reference to selling or leasing its own riparian lands with the water power appurtenant thereto. It has no water power distinct or separable from its own riparian land, which Government water power is only the common law usufruct in the water appurtenant to its riparian

land; and in leasing such riparian land, the Government may prescribe terms in respect to rent, duration of lease, manner of use and terms of use, including rates. After transfer of its riparian lands to private ownership, the extent of the riparian rights, including the right of the usufruct of the waters, is determined by State law."

Without dissenting to the concrete answers thus suggested to the three particular questions propounded, I wish to call the attention of the Committee to a proposition of law incidentally included in the discussion leading up to such answers, and suggested as a part of the report to the Senate; but which proposition and ^{its} discussion ^{are} ~~is~~ mere *obiter dicta*, in connection with the above questions and answers which refer solely to the Federal authority. It is important to have erroneous statements with regard to the question of State control of water rights and water powers, avoided in the forth-coming report in answer to the inquiries of Senate Resolution 44.

It has been suggested that as a part of such report this Committee assert the proposition that it is within the power of common-law States,—that is, States where the common law of riparian rights has been established as the property-right law of such States,—by virtue of their sovereignty, to modify or change such common-law rule.

It is to this suggestion to which I wish to call attention.

THE SOURCES OF THE ERROR COMPLAINED OF.

The proposition complained of is founded upon certain language found in two decisions of the Federal Supreme Court. One from the case of *U. S. v. Rio Grande Co.*, 174 U. S. 702, 703, where, referring to the English common-law rule of the riparian right to the reasonable use of the water of a stream as it passes along, that court said:

"It is also true that as to every stream within its dominion a State may change this common-law rule and permit

the appropriation of the flowing waters for such purposes as it may deem wise."

U. S. v. Rio Grande Co., 174 U. S. 702, 703.

Again, when speaking of the same common-law rule in *Kansas v. Colorado*, 206 U. S. 94, that court said:

"It may determine for itself whether the common-law rule in respect to riparian rights or that doctrine which obtains in the arid regions of the West of the appropriation of waters for the purposes of irrigation shall control. Congress cannot enforce either rule upon any State."

Kansas v. Colorado, 206 U. S. 94.

The language thus quoted is cited as authority for the proposition, that, where any particular common law riparian right has been established in any State as the common law of property right in that State, *thereafter* such property right may be modified or changed by such State; whereas no such conclusion or inference is logically deducible from either of the decisions cited, nor from any decision by either the Federal or any State court. In making such deduction, ^{there is disregarded} the clear distinction made by the Federal Supreme Court in the decisions referred to between (1) the adoption by a State in general of the common law of England, and (2) the adoption and establishment in any State, as a rule of property, of some particular common-law right, as, for instance, a particular riparian right, or all riparian rights. The principle announced by those decisions is, that, although a State may, by its decisions, its Constitution, or its statutes, have adopted generally the common law of England, as a part of its local common law of property, it is not prevented thereby from applying that English common law, with such changes or modifications as it may deem wise. But, whatever the power to make such change or modification from the English common law so adopted as a general proposition, when once the particular modifications or changes from the common law have been established in the State, by

decisions, Constitutions or statutes, one or all, and the common-law rule, as so changed or modified, has become *established* by the decisions of the highest court of that State as the common-law rule of that State, and applicable in a particular way to particular rights, *thereafterwards it is not within the power of that State to change such established law of property rights*, either by statute or by Constitution, without infringing the prohibition of the Fourteenth Amendment to the Federal Constitution.

It was upon this principle that, although adopting the common law of England, as generally governing property rights, it was left, at the same time, to the different States and to the Federal Government, to *establish* that English common law, with modifications and changes, with respect, for instance, to rights upon navigable streams and waters in this country, and to establish the well-recognized modifications of the English common law with respect to navigable streams which, since the decision in *The Genesee Chief*, 12 How. 443, have been the common law of this country and of each State.

So it is that in some States, subject to the rights granted to the Federal Government over navigable streams for the protection of commerce, it has been within the reserved power of the States to define and establish, each State for itself, the common law of property rights with respect to riparian rights, and to adopt the English common law riparian-right rule without modification, or to adopt it in a modified or changed form, or to repudiate it altogether. This right of a State to fix for itself the limits of the property rights between the individual riparian and of a State itself is under the now well-settled principle of the decision in *Water Company v. Water Commissioners*, 168 U. S. 358, 365.

It is on this principle that in certain of the States, known as riparian-right States, we find the essential principles of the law of riparian rights, as such rights were defined under the

English common law, adopted and established as the common law of property rights in those States. Such, in general, are those States touched by the Mississippi River and those east of that river. All of such States have, generally speaking, the English common-law rule as to riparian rights, but with varying applications, modifications and changes from the English common law, as the same ^{have} ~~had~~ been established in the respective States. Nevertheless, in the case of any particular State, where the law of property rights with respect to any particular riparian right has been established by the decisions of the highest court of that State, as the law of property right in that particular State, such property right cannot be taken away by any subsequent action of such State. It is for this very reason, that, when the question is brought to the Federal Supreme Court whether some State statute has the effect to deprive a riparian owner of a certain riparian right, and therefore is repugnant to the Fourteenth Amendment, the Federal Court proceeds in all cases to examine the decisions of the highest court of that State to determine the first question involved, and that is: "Has this riparian owner the property rights which he claims have been taken away by the statute in question?" This shows that riparian rights, when once established by the decisions of the highest court of a State, are not subject to be taken away by a State, by statute or otherwise; and that such riparian right cannot be modified or changed by the State "by virtue of its sovereignty", or otherwise. In the case of *Water Company v. Water Commissioners*, 168 U. S. 358, the riparian right to the usufruct of the waters of the Mississippi River was asserted as a property right as against a statute allowing a detrimental diversion for public water supply. That was a case directly involving the question of the property right of a riparian, not to the use of the bed of a stream, but to the usufruct of the waters naturally flowing by his riparian lands as against a diversion from a navigable

stream for municipal water supply. The Federal Court said:

"The property rights of the plaintiffs in error, as riparian owners, are to be measured by the rules and decisions of the State courts of Minnesota."

And the court expressly stated that it was not the latest decision, the one in question, which was controlling as to this rule of property, and that such latest decision would be affirmed as to such riparian right only because such decision was not inconsistent with the rule of law established by the former decisions of the State court. As the Federal Court said, after examining all the decisions of the State Supreme Court:

"The State Supreme Court, in deciding this particular case, was not, therefor announcing a rule which was at all inconsistent with or opposed to any of its former decisions; and as the extent of the riparian rights in this case was a subject committed to the jurisdiction of the State of Minnesota, we are bound, so far as this question is concerned, to follow the decisions of the highest court of that State as announced in this case."

Water Power Co. v. Water Commissioners, 168 U. S. 371.

It is obvious, from the last case cited, that if the decisions of the Minnesota Supreme Court had established the property riparian right as claimed by the Water Power Company in that case, the judgment complained of (refusing to declare repugnant to the Federal Constitution the statute in question) would have been reversed. In other words, the rule was obviously recognized and established, that where a particular riparian right had been established as a property right by the decisions of the highest court of the State, that right cannot be taken away by any action of the State.

Upon the same principle, it had been left to the far Western States to establish, each State for itself, with reference to riparian rights, either the unmodified English common law, or a modification, or to repudiate riparian rights altogether.

So it is that we find that in Colorado, Nevada, Idaho and other States the local common law property rights with respect to riparian rights have been so established that practically no riparian rights exist in those States, but in place thereof the law of prior appropriation, or the law of State control of waters. In other of the far Western States, as in Washington or in North Dakota, the property law with reference to riparian rights has been so established that the riparian rights attach to the riparian land and in favor of the private riparian purchaser and his successor, from the time the riparian land passes from the Federal Government to private ownership; but such riparian rights are subject to vested rights acquired under the custom of appropriation prior to the vesting of the private title. The peculiarity in these latter States arises from the existence of the Federal Statute governing the rights which the purchaser of public lands takes, which provided that such rights shall be subject to the vested rights of prior appropriators in localities where such law or custom exists. But in any case where a question of the infringement of a riparian right arises in these States, under the claim that some State action, by statute or otherwise, has destroyed a riparian right, the question of whether such claimed riparian right is or is not a property right which the State can change by statute, is decided by the Federal Court by an examination of the decisions of the highest court of the State in question.

In all cases, therefore, the principle is established, that the question whether a State statute, with respect to riparian rights, can be upheld, against the claim that it destroys property rights, is determined by the question, first, of what are such property rights as shown by the common law of the State in question, as such State common law is established by the decisions of its highest court; and, further, that when such riparian right is so established as the law of property right in such State, *that State cannot either "modify" or "change", or*

abrogate such State common-law rule.

Returning to the *Rio Grande case*, it is obvious that the principles here contended for were recognized and affirmed by that decision. What was there stated that a State "may change", was not the rule of property right with respect to riparian rights, or with respect to any particular riparian right, as such property right had been established as the common-law rule of that State with respect to the particular right or rights in question. The "change" there referred to was the power of the State to *establish* at the beginning a property-right law, that is, a State common-law rule of property, inconsistent with the English common-law rule or involving a modification of that common-law rule; and it was at the same time expressly stated that, even by such formulation and adoption of a rule of law, neither the riparian rights of the Government nor the constitutional power of control of the Government could be affected. Note that the court, after quoting the common-law definition of the riparian right to the reasonable usufruct of the waters of a stream, says:

"While this is undoubted, and the rule obtains in those States in the Union which have simply adopted the common law, it is also true that as to every stream within its dominion a State *may change* this common-law rule and permit the appropriation of the flowing waters for such purposes as it deems wise. Whether this *power to change the common-law rule* and permit any specific and separate appropriation of the waters of a stream belongs also to the legislature of a Territory, we do not deem it necessary for the purposes of this case to inquire. We concede *arguendo* that it does.

"Although this power of *changing* the common-law rule as to streams within its dominion undoubtedly belongs to each State, yet two limitations must be recognized: First, that in the absence of specific authority from Congress a State cannot by its legislation destroy the rights of the United States, *as the owner of lands bordering on a stream*, to the continued flow of its waters, so far at least as may be necessary for the beneficial uses of the Government property; second, that it is limited by the superior power

of the General Government to secure the uninterrupted navigability of all navigable streams within the limits of the United States."

U. S. v. Rio Grande Co., 174 U. S. 702-703.

It is obvious that the "common-law rule", which is here referred to as subject to change by the State, is the general English common-law rule, and that the "change" spoken of applies to the changed form or rule of law established, or which may be established, as the controlling rule of property right in each State with reference to the particular right in question. It does not, and could not, imply the recognition of the right of a State to change a property-right law, once established in that State, by the decisions of its highest court as the law governing riparian rights.

So in the case of *Kansas v. Colorado*, 206 U. S. 94, it is simply stated and held, as a general proposition, as shown by the quotation above given, that each State "may determine for itself whether the common-law rule in respect to riparian rights" or the law of appropriation "for the purposes of irrigation shall control". This refers obviously and necessarily to the right of a State to *establish* the common-law doctrine of riparian rights, or another doctrine, and cannot imply the right of a State to change a doctrine once established or to modify it so as to take away riparian rights, or other property rights which have been once fixed by the common law of the State.

It was in accordance with and depending upon these distinctions which I here assert, that the case of *Kaukauna Co. v. Green Bay, etc.*, 142 U. S. 254, was decided. There a navigation dam was built under public authority, and incidental to it was created certain surplus water power. The riparian owner who had contributed nothing to the improvement and who had not developed water power, claimed that the surplus water powers incidental to the navigation improvements, or a portion of them, belonged to him, because a portion of such

water power was naturally appurtenant to his riparian land. The State claimed a right to the water power as incidental to the navigation improvement under a State statute reserving to the State such surplus water power. The Supreme Court of Wisconsin upheld the statute and the riparian owner took the case to the Federal Supreme Court on the claim that the statute as so enforced, deprived him of his riparian rights to the water power. In the Federal Court the inquiry was: First (1) "What are the property rights of the plaintiff in error, as riparian owner?" and, second (2) "Do they include the rights to this surplus water power?"

If such property rights included the surplus water power, then it was held that such statute would be repugnant to the Fourteenth Amendment. If not, then the decision of the State court must be affirmed. The sole inquiry by the Federal Court was to determine whether the law of property right, as shown by the decisions of the State court, was or was not as claimed by the riparian owner. The same case and the proceedings in the Federal Supreme Court, proceeded upon the theory, and upon the holding, that if such property riparian right had been established in Wisconsin as claimed by the plaintiff in error, then the State had no power to change or modify that riparian right by statute or otherwise. The court said:

"With respect to such rights, we have held that the law of the State, as declared by its Supreme Court, is controlling as a rule of property. *Barney v. Keokuk*, 94 U. S. 324; *Packard v. Bird*, 137 U. S. 661; *Hardin v. Jordan*, 140 U. S. 371. * * *

"The improvement of the navigation of a river is a public purpose, and the sequestration or appropriation of land or other property, therefore, for such purpose, is doubtless a proper exercise of the authority of the State under its power of eminent domain. Upon the other hand, it is probably true that it is beyond the competency of the State to appropriate to itself the property of individuals for the sole purpose of creating a water power to be leased for manufacuring purposes. This would be a case of

obtains in the arid regions of the West of the appropriation of waters for the purpose of irrigation shall control. Congress cannot enforce either rule upon any State."

Kansas v. Colorado, 206 U. S. 94.

The same court had already laid down the rule in the *Minnesota case* (*Water Power Co. v. Water Commissioners*, 168 U. S. 358), and in the *Wisconsin case* (*Kaukauna Co. v. Green Bay, etc.*, 142 U. S. 272), above cited, and in other cases without exception, that the law of property rights with reference to riparian rights in any State, which property rights as so established could not be changed by statute or by any State action, would be determined by the State common law as such State common law was shown by the decisions by the State Supreme Court. In the *Colorado case*, the Supreme Court defines what is meant by the "common law" and the distinction applies as well to that term when it is used as referring to the common law of a State as it does when it refers to the general common law. The court said, at pages 96 and 97:

"What is the common law? Kent says (Vol. 1, p. 471): 'The common law includes those principles, usages and rules of action applicable to the government and security of persons and property, which do not rest for their authority upon any express and positive declaration of the will of the legislature.'

"As it does not rest on any statute or other written declaration of the sovereign, there must, as to each principle thereof, be a first statement. Those statements are found in the decisions of courts, and the first statement presents the principle as certainly as the last. Multiplication of declaration merely adds certainty. For after all, the common law is but the accumulated expressions of all the various judicial tribunals in their efforts to ascertain what is right and just between individuals in respect to private disputes."

Kansas v. Colorado, 206 U. S. 96, 97.

The riparian right of the reasonable usufruct of the flowing water of a stream, when once established as a property right, is protected by such established rule of property rights and

belongs as a vested property right to the riparian land as an appurtenance to such land. Therefore, when established as a property right under any State common law, whether by adoption of the English common-law rule as a rule of State law or in connection with a change or modification of such English common-law rule, it becomes a vested property right, whether exercised or yet unexercised, and can no more be destroyed, impaired or diminished by State statute or by any other State action, than could any other established, vested, real estate property right.

There is nothing in the *Colorado* decision tending to a different conclusion. The reasoning and result in that decision have too often been referred to as "dodging" the real issue in the case, and as leading to a result which would virtually allow one State, in some instances, to impose its property-right law upon another State, having a different property-right law. The criticism is unfounded. The Supreme Court held that, under the circumstances, the question of the effect of particular diversions in Colorado upon particular riparian owners in Kansas was not in issue, but only the larger question of the general interest of one State as against the general interest of another State. Speaking of the position of Kansas in asking for an injunction, the court said:

"It is not acting directly and solely for the benefit of any individual citizen to protect his riparian rights. Beyond its property rights it has an interest as a State in this large tract of land bordering on the Arkansas River. Its prosperity affects the general welfare of the State. The controversy arises, therefore, above a mere question of local private right and involves a matter of State interest, and must be considered from that standpoint."

Kansas v. Colorado, 206 U. S. 99.

And the court then proceeded to examine the nature, extent and detriment of the diversions complained of, and to apply—not as between individuals of the respective States, but as

between the two States taken as a whole,—the common-law rule prohibiting unreasonable use by an upper riparian (in this case Colorado) to the substantial damage of the riparian rights of a lower riparian (in this case Kansas), to the reasonable use of the waters of the stream; and found as a fact that, considering the general interests of each State and its citizens as a whole, with respect to the uses of the waters of the river, no unreasonable infringement of the rights or interests of Kansas had been caused by Colorado. Therefore, the court refused the injunction asked by Kansas, but,

“without prejudice to the right of the plaintiff to institute new proceedings whenever it shall appear that through a material increase in the depletion of the waters of the Arkansas by Colorado, its corporations or citizens, the substantial interests of Kansas are being injured to the extent of destroying the equitable apportionment of benefits between the two States resulting from the flow of the river.”

Kansas v. Colorado, 206 U. S. 117, 118.

In applying the common-law rule of equitable apportionment between the two States, the Supreme Court was not enforcing, as it expressly said it could not do, the property right of one State upon the other. It was enforcing the common law “in force generally throughout the United States * * * operative upon all interstate commercial transactions except so far as they are modified by Congressional enactment.”

Kansas v. Colorado, 206 U. S. 96.

This case is, therefore, not authority for the proposition here complained of, but is an authority against such proposition.

AUTHORITIES FROM STATE DECISIONS.

Further confirmation of our position appears from various decisions of the State courts, examples of which are next cited. State decisions are important, indeed controlling, upon the

question here presented. The first question is: (1) What fixes and controls the law of property rights with respect to riparian rights? And when that source of power has been determined, the next question is: (2) What is the character of that property right as so established, and can that property right, after it has been so established, be changed or modified by State action?

Now, the Federal decisions above cited, expressly hold that neither Congress nor the Federal Supreme Court can enforce any particular rule of property right with respect to riparian rights upon any State. Further, as we have seen, that the property-right law applicable to riparian rights in any particular State is that which is fixed and established by the decisions of the highest court of such State. This includes, obviously, the power to establish such property right as one which is defeasible by State action or as one which is not so defeasible, or subject to change, modification or impairment. The question, therefore, whether any State can change or modify, either "by virtue of its sovereignty" or otherwise such property right when so established, depends upon the character which has been impressed upon such property right by the law of the State which has established that right. The conclusion inevitably follows, that if, in the case of any particular State, Minnesota for instance, the State law of property rights as shown by the decisions of its highest court, has made a certain riparian right not subject to change or modification by the State, then any State action, by statute or constitution or otherwise, attempting to make such change would be repugnant to the Federal Constitution, and whenever the question arose, would so be declared by the Federal Supreme Court.

Now, in Minnesota, the property-right law has been established by the decisions of its Supreme Court, that the riparian owner has, appurtenant to his riparian land, the riparian real estate property right, subject only to public control for the

purpose of navigation, of the usufruct of the waters of the stream for manufacturing and other purposes which naturally flow past his riparian land, and this rule is stated for example, as follows:

"The rights which thus belong to him, as riparian owner of the abutting premises, are valuable property rights, of which he cannot be divested without consent, except by due process of law, and, if for public purposes, upon just compensation."

Brisbane v. R. R. Co., 23 Minn. 114.

Morrill v. Water Power Co., 26 Minn. 222, 228.

"The right rests upon the fact of riparian ownership; that is to say, the riparian proprietor possesses this right because he owns the land upon the bank; and this is equivalent to saying that the right is attached as an incident to the riparian land, and belongs and appertains to the same."

State v. Mill Co., 26 Minn. 229, 231.

"Subject to the right of the public to use the same for the purposes of navigation, but restricted only by that paramount right, the riparian owner enjoys valuable proprietary privileges. * * * This right of the riparian proprietor, even before it has been in any manner exercised, * * * the right itself * * * is a property right, vested in him, recognized and protected in the law as property. He cannot be deprived of it without due process of law. It cannot be taken from him, and devoted to public use, without compensation. * * * These peculiar property rights of the riparian owner constitute, estimated in connection with the riparian lands, the chief value of the premises. * * * *This right, even though it may never have been exercised, is recognized and protected by law as property, of which he cannot be deprived even by the State without just compensation.*"

Hanford v. R. R. Co., 43 Minn. 104.

Again, in a case where a State statute authorized the construction of a dam so as to diminish riparian rights of upper owners, and where a dam constructed under such State statute caused substantial injury to the exercise of the riparian

rights of an upper owner who had not complied with the State statute, the Supreme Court held:

“The State had no authority to authorize the construction of a dam across the river without providing for compensation to all parties who might be damaged thereby. * * * A riparian owner has the right, without license, to construct a dam which does not obstruct or interfere with the navigation of the stream. This is a right which is appurtenant to the ownership of the bank.”

Simons v. Munch, 107 Minn. 370, 372.

Kretzschmar v. Mehan, 74 Minn. 211, 215.

Hobart v. Hall, 174 Fed. Rep. 433.

Now, under this established law of property right which has fixed the riparian right upon the basis of and in accordance with the common law, it is certainly manifest that the statement could not apply in the State of Minnesota that “it is in the power of these common-law States, by virtue of their sovereignty, to modify or change the rule of the common law.” That is, it is obvious that the State of Minnesota could not change or modify the property-right law with reference to riparian rights so as to make it apply in any particular case differently from the property-right law so established.

Take the case of Wisconsin, where, by the decision of its Supreme Court, there has been established the common law of riparian rights, as a property-right law, in substantially the same way and to the same extent as shown in Minnesota. In 1911, the Wisconsin legislature passed an Act (Chapter 652, Laws of 1911), to “modify” or “change” the common law of riparian rights theretofore so established. This Act had the purpose and effect, in terms, to change the doctrine of riparian rights to the doctrine of public ownership of flowing waters. In other words, it attempted to establish in place of the common-law rule of riparian rights the doctrine of public ownership. The Act provided, as preliminary to its more specifically drastic provisions, as follows:

"Section 1596-2. All of the energy developed or undeveloped of the water in the navigable streams of the State is subject to the control of the State for the public good.

"Section 1596-3. The beneficial use and natural energy of the water of the navigable streams and lakes of this State for all public uses belongs to the State in trust for all of the people."

Then the Act proceeded on the theory, so declared, to establish the details and terms of such public control and ownership, including provisions that every riparian owner must operate his water power only under license from the State, which license shall be obtained only upon submitting to the terms of the Act and subject to changes and other restrictions totally inconsistent with the ownership or exercise of the ordinary riparian rights under the common-law rule of property rights prevailing in that State.

Here is an instance where a State assumed to do precisely that which the statement of the law, suggested upon this point as a part of the report of this Committee, says that the State of Wisconsin would have a right to do; for this Act was an attempt merely to change or modify the established common-law of riparian rights in the State of Wisconsin.

But the Supreme Court of Wisconsin, while recognizing in full the police powers of the State, said with reference to these common law riparian rights:

"But such incorporeal riparian rights are not as against the riparian owner subject or subordinate to any salable or demisable right of the State or to any claim of the State for compensation therefor or to any grant of the State to a third person for the purpose of manufacturing, using or selling water power. They may be taken for the latter uses when such uses are public, but only upon compensation."

State ex rel. Wausau v. Bancroft, Atty. Gen., 134 N. W. 330.

"It is quite a different thing to impose upon a corporation to which the power of eminent domain is delegated public duties (*Wis. Riv. Imp. Co. v. Pier*, 137 Wis. 325), and to declare that a given use for the benefit of the owner of property is a public use. This last is what the legislature attempted to do here. If the legislature could, by mere fiat, make any use of property a public use, all private property could in this way be subjected to these drastic regulations justified by a public use. 'All the courts, we believe, concur in holding that whether a particular use is public or not is a question for the judiciary.' *Wisconsin W. Co. v. Winans*, 85 Wis. 40, citing *Lewis Eminent Domain*, Sec. 158; *Talbot v. Hudson*, 16 Gray, 417, and other cases. The use of water power by a manufacturer for his own purposes is a private use and is not on the basis of a sale of power to the public. This part of the Act therefore falls." * * *

State ex rel. Wausau v. Bancroft, Atty. Gen. 134 N. W. 330.

And again:

"These premises support the conclusion that the Act in question attempts to deprive the owners of improved riparian land and of the resulting water power and owners of unimproved riparian land with its appurtenant water-power privileges and advantages, of property without due process of law; that it attempts to authorize the taking of private property for private purposes; and that it attempts to take property without just compensation. The Act in question, in the particulars mentioned, is inconsistent with the paramount commands of the State and of the Federal Constitution applicable to the same facts and conditions. Hence, we cannot recognize it as law. * * *

"What is the main purpose of this Act? Manifestly to establish a new system by which the granting of charters for dams should be referred to the Railroad Rate Commission for findings, the construction, regulation and upkeep thereof subject to the authority of that Commission and that the State should from henceforth exact a franchise fee and that all should be coerced to come in under this Act and consent to the conditions of the new charter, and that the public, either a municipality or the State, should finally succeed to the ownership of all water power of the State. * * *

"When a legislative enactment has an all-pervading purpose coupled with minor details and administrative features and this purpose is unconstitutional, such minor details and administrative features cannot survive condemnation of the main purpose. * * *

"The all-pervading necessary effect of such chapter is to take property which is in fact private, for a purpose declared to be public without rendering any compensation therefrom. The necessary effect, if enforced,—and so the purpose in a legal sense,—of Chapter 652, Laws of 1911, being State appropriation of the private property rights or riparian proprietors owning the banks of navigable rivers, in a manner not warranted by the fundamental law and those portions of the Act which do not directly deal with the assertion of State title, being merely features designed to render such assertion efficacious, it all forms an inseparable and an unconstitutional entirety."

State ex rel. Wausau v. Bancroft, Atty. Gen., 134 N. W. 330.

Would it be anything but erroneous to assert today, as a general proposition regarding the power of States to legislate with respect to riparian right, that the State of Wisconsin, for instance, in the face of this property-right law so established, could, by any State action, change or modify the common law of riparian rights as so applied and established in that State? Yet such an assertion is exactly that which is suggested under the proposition which is here complained of.

Take another example from North Dakota. In 1889 the State of North Dakota was formed with the following provision in its Constitution:

"All flowing streams and natural water courses shall forever remain the property of the State for mining, irrigation and manufacturing purposes."

Article XVII, Sec. 210.

Subsequently the question arose as to whether this constitutional provision established the law of State control and ownership and the right of appropriation, as again the law of riparian rights, and precisely this question was decided

by the North Dakota Supreme Court. That court examined the common law of the Territory as shown by the decisions of the Territorial courts and found that the law of riparian rights had been accepted and established as the law of property rights with respect to riparian lands. It held that such riparian lands had been taken under the provisions of the Federal Statutes, subject to appropriations that had been made prior to the vesting of the riparian title, because the United States land laws (Act of Congress of July 26, 1886, Ch. 262) made a grant of Government land subject to the rights of prior appropriators thereon. But the North Dakota court held that once the riparian title had vested (and it held that the vesting of the title dated from the occupancy), the law of riparian rights governed the rights of the private owner who had taken his land from the Government, and that no further appropriations could be made; and that the attempt by the Constitution of 1889 to change the law of property rights from that of riparian rights to public ownership and control could not have the effect intended. As the North Dakota court said, after stating the common-law rule of riparian rights with citations from *Gould*, *Angell* and from *Wisconsin cases*:

"These doctrines of the common law were in force in the Territory of Dakota at the time of the adoption of the Constitution of this State. By virtue of them, the riparian owners in the Territory were vested with the specified property rights in the bed of all natural water courses, and in the water itself. Such rights were under the protection of the Fourteenth Amendment to the Federal Constitution, which protects property against all State action that does not constitute due process of law. It follows that Section 210 of the State Constitution would itself be unconstitutional in so far as it attempted to destroy those vested rights of property, if it should by construction be given a scope sufficiently wide to embrace such matters."

Bigelow v. Draper, 6 N. D. 152.

The Territorial law was found from the case of *Sturr v. Beck*, 6 Dak., 71, 133 U. S. 541, and other Dakota cases.

This instance from North Dakota is significant. The attempt by a State to make the change from riparian-right laws to the law of public ownership was there an attempt by constitutional provision at the very organization of the State. If the law of riparian rights had not theretofore been established as the property-right law, or even if the question of such establishment had been left doubtful, the doctrine which should prevail in that State might have been established by the constitutional provision. But, because the doctrine of riparian rights had been established as the law of the State, it was held that it was a property-right law and that no action of the State, even by a constitutional provision, could change or modify that law. It was expressly held that, under the circumstances existing, the State could not modify or change the common-law rule of riparian rights. Certainly, at this time when the doctrine of riparian rights has been not only established before the formation of the Constitution, but by these decisions since, and when the property-right law is to be determined by such decisions, it cannot be within the power of the State of North Dakota to change from its common law of riparian rights to the law of public ownership or to the law of appropriations, nor to change or modify the property-right law so established.

NO DIFFERENCE BETWEEN DEVELOPED AND UNDEVELOPED WATER POWER.

It has been suggested that the statement here complained of,—as to the power of a State to change a riparian right property law to a law which is repugnant to riparian rights,—would be true as to all riparian rights not yet exercised even if it could not apply as against riparian rights which have been exercised. Such suggestion disregards the property law of riparian rights

as laid down in Minnesota and in all other riparian right States. If a riparian right State could enforce a law taking away riparian rights and make it applicable to all riparian rights not yet exercised, it would bring about a practical change in the law of such state so as to place the law of appropriation in place of that of riparian rights. Where the riparian had already exercised his rights and developed his water power, that would be considered a prior appropriation and free from the effect of the suggested modified law. But where he had not developed his water power, it would be subject to the control of the State or to appropriation by individuals under control of the State and regardless of any riparian rights.

However, it is manifestly the property right law of Minnesota, and of other riparian States,—indeed it is the property law of all States, except the few States that have the unqualified law of appropriation or public ownership, established as the property law,—that the riparian right to the beneficial use of a stream is a property right, even before it has been actually exercised. This is shown by the *Hanford case*, for instance, where it is expressly said, referring to a particular riparian right:

“This right, even though it may never have been exercised, is recognized and protected by law as property, of which he cannot be deprived even by the State without just compensation.”

Hanford v. Ry. Co. supra.

The same property right is recognized in the unexercised riparian rights which are appurtenant to riparian land, in the State of Wisconsin as shown by the decisions above cited.

Therefore, it is not within the power of a State, even as to unexercised riparian rights, to deny the riparian right itself, either directly or indirectly. The State cannot, in place of the property law which creates and recognizes that property right, set up another law of property which repudiates that right and which either asserts the right by prior appropria-

tion or the right of State control to the extent that the same would be inconsistent with property law of riparian rights so established.

CONCLUSION.

There is a vast difference between the following two propositions:

(1) The right of a State, through its legislature, or its courts, either or both, to *establish*, that is, in the first instance, as the property-right law of that State, either the common-law doctrine of riparian rights, or a modification thereof, or an entirely inconsistent doctrine, such as the law of prior appropriation or of public ownership and control, and,

(2) The right of a state to *change* the established law of property rights from the previously well-settled law of riparian rights to one which is inconsistent with it.

The first proposition is the one and the only one which has been stated by the Federal Supreme Court or by any court, so far as concerns the right of a State to adopt a different doctrine from that of the common-law doctrine.

The second proposition has never been asserted. It could not be correctly asserted.

I submit, for the reasons shown above, that the statement herein complained of, suggested to be made as part of the final report of this Committee in answer to the questions propounded by Senate Resolution 44, should not be adopted as part of the report. That statement is not necessary or pertinent to the answers to be given to the questions propounded. It is an erroneous statement as to a general legal proposition. More than that, it is an error which will tend to encourage confiscatory and unconstitutional legislation, through a misunderstanding

of the legal propositions involved, and such misunderstanding would be increased by the prestige given to an error by a nationally representative body of lawyers, presumably after due study and consideration of the principles of law bearing upon the subject.

Especially in this period of apparent disregard, by legislators and by a portion of the public, of the safeguarding of constitutional limitations, and in view of a too-prevalent desire to break down the constitutional barriers created for the protection of personal and property rights against hasty and ill-considered legislation, it is important that no undue or unfounded encouragement be given to these dangerous tendencies. Unless the Committee shall be convinced that a statement of this kind is without doubt a correct statement of the law, they should avoid any assertion of such proposition.

I submit that the statement referred to is not ^{merely} ~~only~~ doubtful as a proposition of law; ^{it} ~~but~~ is directly contrary to all principles of law applicable thereto.

Respectfully submitted,

ROME G. BROWN.

Minneapolis, Minn., March 20, 1912.

THE
CONSERVATION OF WATER-POWER

BY
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THE CONSERVATION OF WATER-POWERS.

“**C**ONSERVATION” is a much used, a much abused, term. In its name, many salutary reforms have been advocated; some have been accomplished. In its name, also, have been committed many sins, both of commission and of omission. Some men who arrogate to themselves the title of “conservationists” are indictable under the charge of misbranding. Many, whose views are attacked as antagonistic to public interest, as selfish and non-progressive and as hostile to the policy of conservation, are, nevertheless, sane and discriminating advocates of a wise public policy.

The question of conservation, as the term is here used, has to do with the policy, not only of the governments, federal and state, but also of the people at large, with regard to those resources, useful to man, which are supplied by nature in a form easily adaptable to immediate utilization, and particularly with regard to those natural resources, not uniformly distributed, which are limited in extent or in quantity. Among such natural resources are the minerals in the earth, the forests growing upon the earth, and the waters flowing over the earth. Whether applied to any or all of these, a policy of conservation should, manifestly, be directed neither to a locking up or withdrawal from use, on the one hand, nor to an indiscriminate or wasteful utilization, upon the other hand. Economy, in its best sense, should prevail, but an economy which has regard for both the present and the coming generations. These natural resources are placed by nature for the use of man, the man of to-day and the man of the future. Where present and future interests conflict, those of the present are paramount. It is not justifiable unduly to place burdens and restrictions upon the present generation out of regard for those to come after us, nor unduly, by present extravagance, to impose unnecessary burdens upon the future. More than that, neither desires for the present nor for the future should be made the justification or pretext for measures in conflict with the fundamental laws of personal and property rights which are, under our constitutional government, the safeguards of our free institutions.

Conservation, then, should denote the policy of the economical utilization of these natural resources, and of the utmost protection, within the law, of such economy, consistent with the needs of present and of future generations.

IMPORTANCE OF WATER-POWER CONSERVATION.

The two great, natural sources of energy available are coal deposits and water-powers.¹ The total stationary power used in the United States is estimated at over thirty million horse-powers.² The total developed water power is about six million horse-powers; and of the latter, about three-quarters is commercial power, that is, power produced for sale. The amount of water power now economically capable of development is not less than twenty-five million horse-powers, including that already developed,³ and is by some authorities estimated as high as thirty-five million horse-powers.⁴ The total potential water power of the United States is estimated at two hundred million horse-powers.⁵ The present annual coal consumption in the United States is over five hundred million tons, and at the present rate of consumption and annual increase, the supply of anthracite coal will be exhausted before the end of the present century. The known supply of bituminous coal, while sufficient for six or seven centuries to come, assuming that the present rate of consumption continues, is in fact limited, and its cost to the consumer gradually increases as the supply diminishes.⁶ While the cost of developing water power and the hazards of the business are great, the development of electrical transmission of energy has made water-power development feasible as a business proposition, as against the cost of steam power, to

¹ For the purpose of this discussion, gas and oil are assumed as part of coal deposits.

² See the report of the United States Commissioner of Corporations on "Water-Power Development in the United States," issued by the Department of Commerce and Labor, March 14, 1912.

³ Report of Commissioner of Corporations, *supra*; Hearings on the Development and Control of Water Power, Senate Document 274, 62d Congress, 2d Session, pp. 11, 14, 211, 273.

⁴ Senate Document 274, 62d Congress, 2d Session, pp. 11, 14, 32, 211, 272.

⁵ Senate Document 274, 62d Congress, 2d Session, p. 275.

⁶ H. Sinclair Putnam in Proceedings of the Conference of Governors, 1908, p. 297; M. O. Leighton of United States Geological Survey, Annals of the American Academy of Political and Social Science, May, 1909, p. 54.

the extent that the amount of water power which is yet undeveloped, but which could be economically developed at the present time, amounts, as shown above, to about twenty million horse-powers. As fuel grows scarcer and as the science of electrical transmission progresses, further water-powers, now merely potential, will be available for the market. It is computed that under average conditions about fifteen tons of coal are required to generate one horse-power a year.⁷ The use, therefore, of the twenty million horse-powers of water power now unused but economically available, would reduce the annual coal consumption by approximately three hundred million tons; that is, by more than fifty per cent. Thus by the extended utilization of one source of energy, water power, two objects of conservation would be accomplished, — the utilization, without loss, of one natural resource, and the saving from loss of another.

CONSERVATION OF WATER-POWERS MEANS EXTENSION OF
THEIR USE.

Herein lies the peculiar adaptability of the policy of conservation to the use of water-powers. The three natural resources referred to represent fairly three distinct classes, or kinds, differing in respect of their quality of persistence. The mineral supply, in this case the coal deposits, is limited by its fixed and approximately computable quantity. In the case of timber, while the present supply is limited, it, nevertheless, is naturally renewed. Indeed, the non-use of the quantity ripe for use is itself a waste; but, comparatively speaking, timber is a recurring, even if not a constant and undiminishing, natural resource. But water power is constant. The supply is not diminished by use, for in itself it consists in the development and use of two constant factors, (1) supply of water and (2) a head and fall, through which the weight of the water creates energy developable for practical use.

Every ton of coal used is forever lost as a source of energy. The use of every fifteen tons of coal means that the natural sources of energy have been forever diminished by an amount equivalent to the use of one horse-power for an entire year. To the extent that any quantity of coal is used up for energy before the time when its

⁷ Senate Document 274, pp. 26, 32.

use is necessary, in place of an equal amount of energy from water power, such use constitutes a waste of energy. On the other hand, the non-use of any quantity of water power, through lack of development and of use of water-powers, the development of which is commercially feasible, means a waste of energy which can never be recouped. So far as such waste of water-power energy is accompanied by the further waste of coal energy, which the water-power energy might otherwise replace, there results a double and continuous loss or waste of the energy available from natural resources and, therefore, of these two natural resources themselves. The primary object of the conservation of natural resources, which is to preserve them from waste, is manifestly doubly opposed by any policy which defeats or postpones the development and utilization of water-power energy.

Because it is inexhaustible and because its use replaces that of another and exhaustible natural source of energy, water power is the most potent of all natural resources, as a subject and agency of conservation. In the case of a limited, exhaustible, and rapidly diminishing supply of a natural resource, such as that of coal deposits, the forces of conservation should be directed to the prevention of use, as far as consistently possible. But the correct view of conservation inevitably leads to the demand that, in the case of water-powers, there shall be encouraged and promoted the greatest and most immediate use possible.

What, then, should be the policy and attitude of our state and national legislatures and of the people as a whole with regard to the conservation of water-powers, which, as we have seen, means their utilization, immediately and universally, and to the greatest extent possible, consistent with the fundamental constitutional law governing the rights and obligations between the federal and state governments and also between the people at large, represented by these governments, and individuals?

THE GOVERNMENT AS SOVEREIGN AND AS PROPRIETOR.

As applied to water-powers, a policy of reservation is obviously repugnant to conservation, for the latter manifestly means immediate utilization to the greatest extent possible. Again, legislative measures, national and state, while directed to promote present

and general utilization, should, in their purpose and effect, be made consistent with the fundamental law of private property rights. They should also be in harmony with the established rights and authority of the federal and state governments. A default in either of these particulars signifies a misapprehension of the real meaning and purpose of conservation, and involves a departure from the principles of that wise and progressive policy. Any unnecessary obstacle set up against the ready development and use of water-powers indicates a policy of reservation instead of utilization. A disregard, moreover, of the rights of individuals by either the federal or state governments, or of the rights of states by the federal government, leads to an unwarranted encroachment, under the guise of serving a paramount public interest, upon the authority and rights of the states, or upon the property rights of individuals, and makes conservation a mere pretext for confiscation.

From the failure to recognize these principles of conservation peculiarly applicable to water-powers, have arisen many mistakes in legislation heretofore enacted ostensibly in the interests of conservation. Such legislation affects two classes of property, the one where the element of proprietorship in the government is absent, and where its only rights are those arising by virtue of its sovereign authority to regulate commerce; the other where the government, in addition to its limited rights as sovereign, holds the water-power lands and rights as proprietor. Obviously the rights, obligations and authority of a purely sovereign power of control must be distinguished from those where the *ius publicum* and the *ius privatum* are combined. To the latter class belongs the control by the federal government of water-powers which are part of the public domain; also of those appurtenant to lands and rights which are acquired, by purchase or expropriation, by a government, national or state, for a use authorized in the public interest. To the former class belongs the control of water-powers which, under the established law, are a part of the riparian land, the title to which is vested in private ownership; also, as against the federal government, where the ownership or power of control is vested in the states.

With respect to these classes of power of control, let us examine the present legislative policy. First, as to water-powers on the public domain.

WATER-POWERS ON THE PUBLIC DOMAIN.

As to lands upon the public domain, the federal government is both sovereign and proprietor. The question of its control of water-powers, which are part of the public domain, is, therefore, one of policy rather than one of constitutional law. The present avowed policy, however, is one of delay, hindrance, and reservation rather than one of encouragement to use. The public domain is mostly confined to the far western states, where, particularly in the mountainous regions, large and valuable undeveloped water-powers have long lain dormant; but their development is now economically feasible for markets creating a demand. They are potentially the source of stupendous industrial growth. Water-power development, however, involves immense expense in construction and maintenance of water-power and electrical plants and of transmission lines. Large capital investment is necessary. Capital is furnished, as any other commodity, upon terms commensurate with the hazards of the enterprise, and with the degree of certainty of tenure and of the probability of the ultimate return of the actual investment with fair profits thereon. As the government owns the water-powers on the public domain, it is proper that a charge, fair under all the circumstances, should be reserved for the right to utilize them. But the uncertainty of tenure and the onerous conditions imposed in grants of water-power rights upon the public domain have prevented any considerable development. A company or an individual desiring to develop water power upon the public domain must first appropriate the water under the laws of the state where the power site is situated. This provision recognizes the laws of those states in which most of the public domain is situated, and where the common law of riparian rights has been replaced or modified by that of prior appropriation. It recognizes, also, the rule, established as to all states, that, as between the individual and the government, federal or state, the individual rights are established and enforced according to the property law of the state wherein the land is situated, subject always to the authority of the Congress to regulate commerce, that is, in the case of waterways, to regulate navigation.⁸ Before development one must,

⁸ Act of July 26, 1866, U. S. Rev. Stat., sec. 2339; Act of July 9, 1870, U. S. Rev. Stat., sec. 2340; Act of March 3, 1877 (Desert Land Act), 19 U. S. Stat. at Large,

upon application, obtain the permission of the Secretary of Agriculture or the Secretary of the Interior, to use such portion of the public domain as may be necessary for a dam, power plant, and transmission lines; and such permit is revocable at the will of such department and subject to such changes and conditions as it may, from time to time, see fit to impose. The land still remains subject to entry under the homestead or mining laws and such entry may effect a revocation of the permit. If the jurisdiction over the land in question is transferred from one department to another, the permit is thereby automatically revoked. There is no provision for uniform rules, to insure certainty or consistency in the privileges conferred or in the obligations imposed.⁹ This policy of legislative discouragement evolved into an avowed legislative policy of complete reservation, when, in 1910, the Congress authorized the President, in his discretion, to withdraw from settlement, location, sale, or entry, any of the public lands and to reserve the same for water-power sites or other enumerated uses until such withdrawals or reservations should be revoked.¹⁰ Under the authority thus granted there have been withdrawn from location or use most of the desirable water-power sites upon the public domain. The amount of water power now undeveloped and capable of development in the national forests is estimated at over thirteen million horse-powers, as against about three hundred thousand horse-powers now developed. This does not include a very large, but less proportionate, amount of undeveloped water power on other parts of the public domain.¹¹

It is manifest that a proper conservation policy demands that all these water-powers be available for immediate use and that a definite, consistent policy be adopted with regard to their control. Safeguards may be provided against purely speculative entries and against monopoly. At the same time, the greatest encouragement should be given to capital for investment. The chances of any

377; *St. Anthony Falls Water-Power Co. v. Water Commissioners*, 168 U. S. 349, 365 (1897).

⁹ Act of February 26, 1897, 29 U. S. Stat. at Large, 599; Act of June 4, 1897, 30 U. S. Stat. at Large, 34-36; Act of February 15, 1901, 31 U. S. Stat. at Large, 790; Act of February 1, 1905, 33 U. S. Stat. at Large, 628.

¹⁰ Act of June 25, 1910, 36 U. S. Stat. at Large, 847.

¹¹ Report of Commissioner of Corporations on Water-Power Development in the United States, March 14, 1912, pp. 194-195.

automatic revocation of permits should be eliminated. The power of arbitrary revocation should not be reserved. If a time limit is fixed, it should be for a long period, not less than fifty years. But any fixed time limit, without provisions for renewal upon definite terms, is a great obstacle to investment. Investors are reasonably entitled to be assured of a return of their investment with an annual profit commensurate with the hazards incurred. If, at the end of a fixed period, they are to forfeit their plant, or be subject to a renewal of their permit upon terms not agreed upon in advance, or be compelled to turn over their plant upon the payment merely of its then cost of reproduction, their service charges must be increased so that at the expiration of the permit they shall have received from the consumers not only interest and profits, but also the entire amount originally invested in structures, renewals, and improvements. Assurances of continuity of tenure, either by provision for renewals of permits for definite terms or by perpetual permits, subject to specific rates for rentals or charges measured by the success of the enterprise as evidenced by profits, would establish a tangible and business-like basis for investment. A permit should be revocable only for cause and after an adjudication. Rates to consumers should be subject to the control of the various states in which the product is supplied, thus making the control of rates subject to the same rules as are applicable to other similar public-service enterprises.

These are simple problems and can be easily and wisely solved if they are approached in the true conservation spirit. The present obstacle to their solution is the too prevalent idea that proper regard for the interests of private investors is a heresy of conservation and that the reservation to the government of the very utmost possible, of profit and of advantage, is of the essence of conservation.

WATER POWER AT GOVERNMENT NAVIGATION DAMS.

Under its constitutional power to regulate commerce the Congress has paramount control of navigation in the navigable streams and waters of the United States.¹² Under this power the federal

¹² *Gibbons v. Ogden*, 9 Wheat. (U. S.) 1 (1824); *The Genesee Chief v. Fitzhugh*, 12 How. (U. S.) 443 (1851).

government, with the authority of the Congress, has constructed and maintains on rivers, at various points in the United States, navigation dams with locks and power appliances necessary for their operation. For such purpose it sometimes purchases or expropriates the necessary riparian lands and rights, and thereby becomes the proprietor, not only of the structures and appurtenant appliances, but also of the riparian land and rights included in, or affected by, the structures and by their operation, and hence is owner of the water power developed at such a dam. It has no power or authority to construct or operate a dam for water-power purposes, except for its own direct use. The government could not, either as proprietor or sovereign, erect and operate a dam, primarily for water power, and sell or lease, either the structures and water-power rights or the power produced. Where, however, it owns water power created incidentally to its authorized navigation improvements, it may sell or lease the surplus power, not required for its own use, and upon such terms as it may choose to make with any purchaser or lessee. The right to make terms and conditions for such use of the water power does not rest upon the fact that the water power is incidental to a navigation improvement; neither does it rest upon the fact that the government has control of the river for the purposes of navigation. This right is based expressly upon the fact that the government by virtue of its acquirement of the riparian rights, holds a proprietary interest in the water power in question, and that, as such proprietor, it may deal as any holder of a proprietary interest.¹³

The federal government has a certain power, arising by virtue of its sovereign power under the commerce clause, of control over navigation. This sovereign power is limited. By virtue of that power alone it has no ownership or control over water-powers as such, whether they be developed at navigation dams or otherwise. It may acquire further rights, either of ownership or of control, by attaching to its sovereign right certain proprietary rights; and it is the extent of its acquirement of such proprietary rights which, mainly, determines the relations and obligations between the government and the riparian. In the foregoing I have assumed that when the government entered upon the construction of a naviga-

¹³ *Green Bay Co. v. The Patten Paper Co.*, 172 U. S. 58, 173 U. S. 179 (1899).

tion dam, it acquired, not only sufficient riparian land for its dam abutments and other rights within the bed, but also the riparian water-power rights affected by the dam; that is, that it became, by purchase or otherwise, through private or state grants, or both, proprietor of the water power itself. Such were the circumstances in the case of the *Green Bay Co. v. Patten Paper Co.*

To cite that case, however, as authority for the claim that, because the navigation dam has been constructed by the government under its constitutional power of control over navigation, it thereby acquires either ownership or control over all the water power developed at the navigation dam, is to lose sight of many obvious and controlling distinctions. It is not necessary here to decide the question, which is sometimes disputed, whether the government has the right to condemn, or even to acquire by purchase, any water-power rights beyond those which are reasonably necessary to enable it to construct and operate the navigation dam. That it may do so, at least to the extent required for navigation purposes, is manifest. That it has no ownership or control of any amount of water power beyond the quantity required for such navigation purposes, except through an acquirement for which compensation is made, is equally manifest. The mere fact that the surplus water power is developed by the navigation dam does not change the proprietary right to such water power from the riparian to the sovereign. The water power is not "created" by the dam. It was created by nature when the quantity of flow and the head and fall were made a natural incident to the riparian real estate. Its ownership in the riparian, established by nature, was confirmed by the law of the land which vested it in him as a property right *iure naturæ*. Its incidental development through a construction by one who is not its owner does not change its ownership, any more than would the fetching to market by one man of goods owned by another.

It is consistent with its constitutional power of navigation control, that the government should have or acquire the right to occupy the bed of the stream with its navigation dam, the right thereby to develop and use such an amount of water power as is necessary to operate the dam for navigation purposes, the right to raise and lower the waters in the pool above the dam in the operation of the locks, the right to acquire land for dam abutments, flowage and other necessary purposes, and that, to the extent reasonably necessary

for purely navigation purposes, it should assert and exercise these rights, so belonging to it or so acquired, as paramount to the rights of ownership or of use belonging to the riparian. But the reasonable necessity for navigation purposes marks the limit of the rights which the government has or can acquire against the will of the riparian, or as purely paramount rights.

We have here a surplus water power, developed incidentally to the navigation improvement, the government owning and controlling to the limit of navigation interest, the riparian owning the remaining rights. This is an obverse case to the development by the riparian of the water-power dam, under consent of the government acting in the interests of navigation; for in the latter case the navigation facilities are incidental to the water-power improvement. In both instances the question of the rights and obligations between the government and the riparian can be properly solved only by observing the distinctions arising from the sources of their respective rights. If it were physically feasible, as it might be in some cases, that the surplus water power could be utilized without the aid of the navigation dam, the riparian would have the right to enjoy the full beneficial use of such power, subject to the condition that he did not affect the flow at the navigation dam in such a way as to interfere with its operation for navigation. This might be done, for example, by constructing around the pool created by the navigation dam, or, if the contour of the river permitted, by constructing across the owner's land from a point above the pool to a point below the dam; but the expense of such development in most instances would be prohibitive. The possibility, however, illustrates the nature of the riparian right. On the other hand, to allow the riparian the free use of the development of his surplus water power afforded by the navigation dam itself, would give to him a financial advantage from the navigation development. If, therefore, he were to use his surplus water power under the navigation development, instead of by a more expensive independent water-power development, it would be proper, regardless of his technical legal rights, that he should pay to the government for such advantage an annual charge based upon the fair cost of construction and maintenance, not of the navigation dam and facilities as constructed by the government, but of such water-power dam as would have been reasonably necessary if the navigation improve-

ment had not been made. These should be matters of contract adjustment between the government and the riparian. What we are here interested in is the fact, that, without acquirement by the government with compensation, the surplus water power at navigation dams belongs to the riparian; meaning by surplus water power, all water power and all use of the water, not reasonably necessary to the operation of the dam as a navigation facility.

This distinction between the proprietary interest of the government and its right of control as sovereign under its constitutional power to regulate navigation, is an important one; for the refusal, by avowed advocates of conservation, to recognize this distinction, has occasioned disputes which have become the most serious obstruction to the utilization, and, therefore, to the conservation, of water-powers appurtenant to private riparian lands. This leads to a discussion of the legislative policy of conservation as applied to private riparian water-powers upon navigable streams.

PRIVATE RIPARIAN WATER-POWERS.

Subject to the paramount control of the federal government to protect navigation, as already defined, the control of water-powers upon all streams, navigable or unnavigable, belongs to the states within which the water-powers are located. This applies to all the original states and to states since admitted to the union; and, as between the state and individuals, the proprietary interest and its character and extent are determined by the law of property rights as established in the respective states.¹⁴ In accordance with these principles, so definitely fixed, the Congress has expressly recognized, by federal statutes, the controlling efficacy of local property laws and customs, with regard to water rights, existing in those states where the common law has been either repudiated or modified, and has, in statutory terms, confirmed the rule established by the decisions just cited from the federal Supreme Court.¹⁵ Nevertheless, inconsistently, in the face of these admitted rules of state control

¹⁴ *St. Anthony Falls Water-Power Co. v. Water Commissioners*, 168 U. S. 349, and cases cited in opinion.

¹⁵ Act of July 26, 1866, 14 U. S. Stat. at Large, 253, and other federal statutes above cited; also Act of March 3, 1891 (Repeal of Timber Culture Laws), 26 U. S. Stat. at Large 1093.

for water-power purposes, the United States Forest Service, assuming to act under its authority for establishing rules, has indirectly encroached upon the power of the states to control water-courses, by establishing restrictive rules and regulations for such parts of the public domain as are essential for dam and reservoir sites, canals, transmission lines, and for similar uses, thus extending, indirectly, the policy, or lack of policy, of revocable permits and insecure tenure of investors, to the development of water-powers upon many navigable and unnavigable streams and watercourses, the control of which, for water-power purposes, belongs to the states.¹⁶

Accordingly, in order to determine the law of property rights of the individual as against the state, or of either or both as against the federal government, and, therefore, to determine the rule by which the federal government itself and its courts are bound, we have to resort to the law as established by the respective states. So it is that in Arizona, Colorado, Idaho, New Mexico, Nevada, Utah, and Wyoming the so-called "Colorado doctrine" governs, whereby the common law of riparian ownership and control of water-powers is repudiated and the law of control by the state prevails, state statutes allowing and regulating appropriation of waters for power and other private uses with preference in the order of actual appropriation.¹⁷ In others of the far western states there prevails the "California doctrine," by which the common law of riparian rights governs, modified only by appropriation rights vested before the riparian lands passed to private ownership. This is the rule in California, Kansas, Montana, North Dakota, Oklahoma, South Dakota, and other states.¹⁸

In the states lying east of or bordering upon the Mississippi River, the common-law rule of riparian rights generally prevails. In these states, to the extent that the common law of riparian rights has been retained, the right to the beneficial use of the water-power appurtenant to riparian land is a part and parcel of the land and belongs to the riparian owner. The state has no right of ownership or control in a proprietary sense. Its rights are confined to that of

¹⁶ See Forest Service "Use Book" issued December 28, 1910.

¹⁷ *Land & Canal Co. v. Ditch Co.*, 18 Colo. 1, 30 Pac. 1032 (1892); *Kansas v. Colorado*, 206 U. S. 46 (1907); *Boquillas Co. v. Curtis*, 213 U. S. 339 (1909); *United States v. Rio Grande Co.*, 174 U. S. 690, 706 (1899).

¹⁸ *Lux v. Haggin*, 69 Cal. 255, 10 Pac. 674 (1886); *Bigelow v. Draper*, 6 N. D. 152, 69 N. W. 570 (1896); *Sturr v. Beck*, 6 Dak. 71, 133 U. S. 541 (1890).

a sovereign power of control for the public use of navigation. All proprietary interests belong to the riparian, and extend to all beneficial uses of the water-power including the revenues therefrom.¹⁹ The distinction as to navigable streams, that in some states the riparian title extends only to high-water mark with the limited sovereign title in the bed and waters, and that in other states the riparian title extends to the middle of the stream, subject to the sovereign control for navigation, is, for practical purposes, merely speculative.²⁰ The rule is the same whether the stream be intra-state, interstate, or an international boundary.²¹

These rights, reserved to and established in the states, and these property rights of beneficial use, fixed by the law of the states in the riparian, are subject only to the paramount control of the federal government for the definite and specific purpose of protecting navigation. The authority of the Congress is limited to the prevention of any unreasonable interference with navigation.²² Although the interests of navigation are paramount, the sovereign right of the government, national or state, to control or protect for this or other public use, while a conflicting interest, is not inconsistent with the exercise of the private right. Each must have regard for the other, but the private right persists up to the point where its exercise becomes an unreasonable interference with the public right. Both rights are limited, but the exercise of the limited public right cannot be used as a means of extinguishing or appropriating the private right.²³

GOVERNMENT CONTROL OF PRIVATE WATER-POWER DAMS.

With the object of protecting highway streams from unreasonable interference with navigation by private structures, including water-

¹⁹ *St. Anthony Falls Water-Power Co. v. Water Commissioners*, 168 U. S. 358, citing the property law of Minnesota which is substantially that of all riparian-right states.

²⁰ *Union Depot Co. v. Brunswick*, 31 Minn. 297, 17 N. W. 626 (1883); *Lamprey v. State*, 52 Minn. 181, 53 N. W. 1139 (1893); *Hobart v. Hall*, 174 Fed. 433, aff'd 186 Fed. 426 (1911).

²¹ *United States v. Chandler-Dunbar Co.*, 209 U. S. 447 (1908); *Niagara County v. College Heights Co.*, 111 N. Y. App. Div. 770, 98 N. Y. Supp. 4 (1906); *People v. Smith*, 70 N. Y. App. Div. 543, 75 N. Y. Supp. 1100 (1902); aff'd 175 N. Y. 469, 67 N. E. 1088 (1903).

²² *Union Bridge Co. v. United States*, 204 U. S. 364, 399 (1907).

²³ *State ex rel. Wausau Street Ry. Co. v. Bancroft*, 148 Wis. 124, 134 N. W. 330 (1912); *Crookston Co. v. Sprague*, 91 Minn. 461, 98 N. W. 347 (1904). On this and other points see "Limitations of Federal Control of Water-Powers" by Rome G. Brown, Senate Document No. 721, 62d Congress, 2d Session.

power dams, the Congress has provided that such structures are prohibited except with the consent of the Congress and that the plans shall be subject to the approval of the Secretary of War and of the Chief of Engineers.²⁴ The influence of one view of the policy of conservation is shown by later legislation compelling, at the expense of private owners, the construction and maintenance in water-power dams of navigation locks and the furnishing of power to operate the same, and imposing charges out of revenues from the water-power, to be used to promote navigation in other parts of the stream; also limiting the period of federal consent to fifty years, without any provisions for renewal or for compensation, at the expiration of that period, for the cost or value of structures.²⁵ As late as 1910 the National Waterways Commission, referring to the attempt of the federal government to collect tolls from the revenues of the private water-power owner, stated that it was without authority, and that such tolls, if imposed, could not be collected, because the federal government has no proprietary interest and no right arbitrarily to grant or withhold consent, and that such tolls could not be levied on the theory of a tax, because they discriminated against future developments in favor of those already made.²⁶ This was after a most thorough examination of the practical and legal questions involved, both in Congress and at special hearings before the commission. Yet, in March, 1912, the same commission, in its final report, urges complete federal control, under the commerce clause, of all hydro-electric plants upon all streams and in all states, and that, until such control be exercised, charges be made in favor of the government out of the revenues of the private water-powers in order to create a fund for the general purposes of navigation improvement.²⁷ An attempt is now being made in the Congress to insert in the so-called Connecticut River Bill a provision for such revenue charges, and the chief supporter of this proposition is the Chairman of the National Waterways

²⁴ Act of September 19, 1890, 20 U. S. Stat. at Large, 426; Act of July 13, 1892, 27 U. S. Stat. at Large, 88; Act of March 3, 1899, 30 U. S. Stat. at Large, 1121.

²⁵ Act of June 21, 1906, 34 U. S. Stat. at Large, 386; Act of June 23, 1910, 36 U. S. Stat. at Large, 593.

²⁶ Report National Waterways Commission, Senate Document No. 469, 62d Congress, 2d Session, p. 86.

²⁷ Report National Waterways Commission, Senate Document No. 469, 62d Congress, 2d Session, p. 61.

Commission.²⁸ The same policy was also supported by Secretary of War Stimson, Secretary of the Interior Fisher, and by President Taft.²⁹

The dispute over this question, which has been carried on in the Congress for several years, and which is now at its height, has been, and threatens to continue, a serious obstacle to private water-power development. It is a dispute between ultra-conservationists, upon the one side, and the more conservative element, upon the other. The source of the difficulty is obviously the growing tendency to depart from the practical and fundamental principle of conservation of water-powers, which is to promote their immediate and general utilization, and to view private water-powers primarily as a possible source of direct revenue for public use.

It is in this respect that the drastic innovations of the Dam Acts of 1906 and 1910 have discouraged water-power development. They put upon the owner the burden of a large initial expense in favor of the government, and limit the right, acquired under consent of the Congress, to a period of fifty years, without any provision for adjustment between the owner and the government at the end of that period. And the power is reserved to revoke the permit at any time, upon paying to the owner the then reasonable value of the physical plant.³⁰ Such provisions are naturally obstacles to improvement; and the National Waterways Commission, in its final report, says, with reference to them, that

"experience has shown that these provisions are not well suited to encourage development of water power or to protect the public interest. Nothing is more discouraging to the investor of capital than uncertainty. . . . The necessity of amortizing the plant, in addition to all other costs of rendering the services, will inevitably result in an increased charge to the consumer, which amounts to a tax of doubtful equity on the local

²⁸ See majority and minority reports United States Senate Commerce Committee, No. 1131, 62d Congress, 3d Session. See "Who Owns the Water-Powers" by Rome G. Brown, *Case and Comment*, March, 1913.

²⁹ See Report Commerce Committee on the Coosa River Bill, S. 7243, 62d Congress, 2d Session; veto message of the President on the same bill; but compare opinion of Secretary of War Taft in Des Plaines River matter, February 23, 1907; Report House Committee on Interstate and Foreign Commerce, February 25, 1909, 60th Congress, 2d Session.

³⁰ Act of June 21, 1906, 34 U. S. Stat. at Large, 386; Act of June 23, 1910, 36 U. S. Stat. at Large, 593.

community for the benefit of the general government. This unnecessary burden could be avoided if Congress would enact legislation providing for a more equitable form of franchise." ²¹

It is apparent that consent should be without limit of time, for the interests of navigation and of the public, so far as any public right of control over the water-power exists, are preserved by the other general provisions of these acts.

Under the discussion of government navigation dams above, the limitations between private and federal control of the water-powers in navigable streams have been suggested. In these questions there are three classes of disputants, representing two extremes and a conservative mean. One extreme claim is that, both at navigation dams and at private water-power dams, the federal government has a right to assert and should assert not only control but even ownership, of all the water-power developed; that in the case of navigation dams no rights of the riparian should be recognized; and that in the case of water-power dams built by the riparian only such rights of beneficial use should be allowed to the riparian as will fairly compensate him for the expense which he has incurred in the improvement, — a concession by the government in consideration that the government without expense has obtained, as incidental to the water-power development, certain navigation facilities. The other extreme is the claim that the riparian owns everything and that the government should receive no facilities or advantage from the use of the bed, or of the real estate or of water-power rights, whether for navigation purposes or otherwise, except upon full compensation to the riparian.

Neither of these views is logical or consistent with the proper view of the constitutional rights and obligations of the parties concerned. It is practically impossible to fix in all cases an adjustment precisely in accordance with the strict legal rights. A proper governmental policy can never be adopted, however, without rejecting both these extreme views by a recognition of the general principles governing the constitutional powers of the government upon the one hand and the property rights of the riparian upon the other.

²¹ Report National Waterways Commission, Senate Document 469, 62d Congress, 2d Session, p. 54.

It is hopeless to discuss these questions with those legislators who refuse to recognize any distinction between the constitutional *right* of the Congress, as fixed by a proper regard for the limitations of constitutional authority, and the *power* of the Congress to do this or that thing, measuring such power only by the possible inability of those against whom it is exerted to protect themselves. There is a vast difference between mere physical or brute power and a right based upon authority. It is true that under its authority to protect navigation the Congress may prohibit, as it does, the construction of private water-power dams in navigable streams, except with congressional consent. But its right to reserve and exercise such power of consent extends no further than the general right to which it is an incident, that is, the right to protect navigation. To the extent necessary to protect navigation, and to that extent only, is the right and power of consent exercised with authority. It is useless to argue with a legislator who says that, having the right of prohibition except upon consent, the Congress has, therefore, not only the power, but the constitutional right, arbitrarily to give or to withhold the consent, and that having such arbitrary power, it has not only the power but also the right to attach any condition, of whatever nature or for whatever purpose it may choose, to the granting of the consent.

I am here discussing the question of a wise constitutional policy, assuming the exercise by the Congress only of rights and powers authorized by the Constitution, and assuming that every member of the Congress has regard for his oath to support that Constitution. It is not an answer, therefore, to any of the propositions which are here suggested, to ask whether and how, under the Constitution, a private riparian owner could prevent drastic, arbitrary and unconstitutional legislation, either by mandamus against the Congress or against any of the executive departments whose action should exceed the rights expressly limited by the Constitution. It is upon this asserted unlimited power of the Congress, arbitrarily to withhold consent to the building of water-power dams upon navigable streams, as distinguished from its really authorized, constitutional and limited right, that has been based the attempt to impose drastic and confiscatory burdens upon the riparian in connection with legislation providing for private water-power dams. Among such attempted unconstitutional burdens are those of tolls or

charges from the proceeds of the water-power for revenue purposes.

Charges for revenue, to be paid out of the proceeds of the water-power, either as already provided in federal statutes or as proposed to be extended, should be avoided, not only on the ground of lack of constitutional authority to impose and enforce such charges, but also because the exaction of such tribute is against a wise policy. Under the principles excluding any proprietary right in the federal government, already shown, and fixing the proprietary interest in the riparian owner, it follows that the levy of tolls by the federal government is unjustified; for after the private riparian owner has been burdened with the expense of locks and of their operation, and has conformed his works, at his own expense, to present and future navigation purposes, and is obligated to operate them subject to the uses for navigation, then all the remaining beneficial uses belong to him. If the property law peculiar to any particular state limits the common-law riparian right so as to give to the public any right of advantage further than it would have under the strictly common-law rule, then such advantage, so far as the water-power itself is concerned, belongs to, and is subject to the control only of, the state government. The exaction of tolls or charges, therefore, beyond the limits indicated, is an encroachment upon the rights of the states or of the individual riparian, or of both. The legal limitation of the power to levy charges is that governing the imposition of a license fee usually arising from the power of regulation, which, in this case, is a power, not of exaction of revenue or of prohibition, but one purely of regulation for a specified purpose. Such fee may be based upon the actual expense occasioned to the government in supervising and in carrying out the requirements for the issuance of the license.³²

But, besides being without authority, the exaction of such tolls operates as a discouragement to development. This results, not merely from the fact itself of toll charges, but also from the manner

³² It may include not only the expense of issuing the license, "but also the additional labor of officers and other expenses imposed by the business for which the license is issued, but nothing beyond this. . . . The amount of the license fee or charge is to be considered in determining whether the exaction is not really one of revenue or prohibition instead of regulation." *City of Ottumwa v. Zekind*, 95 Ia. 622 (1895); *Savage v. Jones*, 225 U. S. 501 (1912). See also *State ex rel. Wausau Ry. Co. v. Bancroft*, *supra*, declaring as confiscatory tolls by the state under the guise of regulation.

in which they are imposed. The fact of their imposition and their amount are left uncertain and changeable at any time at the will of him who happens to be the head of the War Department. The manufacture and distribution of energy from water-power are mostly intrastate, and the matter of regulation of rates is, therefore, primarily a matter of state regulation. For this purpose most states have commissions, affording means of proper adjudication, consistent with local conditions. Moreover, any charge for revenue to the federal government means increased expense of operation which must be taken into consideration by any tribunal fixing rates to the consumer. Federal tolls, even though used for the general improvement of navigation, impose an unequal burden upon comparatively isolated localities for a general public benefit; and at the same time that they thus diminish the advantage to the locality in which the water-power is situated, they encroach upon the right of control by the local state authorities.

This dispute, which is now waging in the Congress, is important here because the inconsistent and uncertain provisions heretofore made and the failure to adopt a definite, business-like policy have been and are antagonistic to the cause of conservation, which, in the case of water-powers, as we have seen, is to promote rapid and wide utilization. Projected developments have been abandoned or postponed, because investors halt before the burdens, the uncertainties and unnecessary hazards placed upon such investments. Besides their adaptability to the manufacture of electrical energy for general distribution, water-powers are peculiarly fitted for the manufacture of certain products. In some instances large industries have been turned from this country to others, for the very reason that the attitude of the government toward private water-power development made investments here insecure.³³ There has been for a long time at Washington a sort of deadlock between those representing the two sides of this question. The majority in the Congress oppose the levy of tolls by the federal government as repugnant to constitutional law and as against a wise policy;

³³ "Water Power in the United States" by M. O. Leighton, Chief Hydrographer of the Geological Survey, in *Annals of the American Academy of Political and Social Science*, May, 1909; Report by Senator Bankhead, from Committee on Commerce accompanying S. 7343, the bill for dam across Coosa River, 62d Congress, 2d Session.

while the executive departments of government generally have been in favor of such tolls.³⁴ The result has been the retardation of water-power development upon navigable streams.

The usual arguments against "big business" and against monopolies have been urged in favor, not only of general federal control, but also of the exaction of tolls. The pseudo-conservationist assumes that water-power is a comparatively inexpensive source of energy and that, therefore, investors in water-power developments can compete with steam power, although subject to the levying of large and uncertain tributes, not only out of their original investment, but also out of their income. As a matter of fact, the development of a hydro-electric plant requires a capital investment per horse-power produced so great that, as against the original investment in a steam plant together with the cost of fuel, it is only in exceptional cases that even without extraordinary burdens the water-power plant is the more economical. Moreover, the hazards of the investment are greater in the case of water-powers, and the most economical development of water-power requires an auxiliary steam plant to supplement the water-power at lower stages of flow. Water-power development requires big capital and means big business. As to its regulation and control, including the matter of rates, it is subject to the same laws and tribunals as other similar public-service enterprises. The exaction of tolls has no anti-monopoly effect, except as it prevents investments altogether. On the other hand, it creates an extra tax or charge upon the consumer, to the extent that it increases the cost of operation.

³⁴ See report of sub-committee on dams and water-powers to Committee on Interstate and Foreign Commerce, House of Representatives, 60th Congress, 2d Session, February 25, 1909, showing President's veto of Rainy River Dam Bill, House Committee Report on same, President's veto of James River Dam Bill, and other documents; Report Senate Committee on Commerce on James River Dam Bill, being Report No. 585, 60th Congress, 1st Session; Report of Senate Committee on Commerce on Senate Bill 7343, the Coosa River Dam Bill, 62d Congress, 2d Session; President's veto message of Coosa River Dam Bill, Senate Document 949, 62d Congress, 2d Session; Majority and minority reports of Senate Commerce Committee, 62d Congress, 3d Session, on Senate Bill 8033, the Connecticut River Bill; also debates in the United States Senate, Congressional Record, February, 1913, on Connecticut River Bill. The President, Secretary of War, and Secretary of the Interior favored the inclusion of toll charges in the Connecticut River Bill; but they were eliminated from the bill by vote of 53 to 29, and the bill passed the Senate as so amended by a vote of 74 to 12. See Congressional Record of February 17, 1913.

The appropriation by the government of a portion of the proceeds belonging to the riparian out of the beneficial use of his water-power has, indeed, a tendency to create and to promote water-power monopoly. Since the dispute in the Congress over these questions was precipitated about six years ago, water-power development upon navigable streams in this country, except those constructed under prior acts of the Congress, has been comparatively at a standstill. Water-power development has since been confined mostly to the small streams where congressional consent was not required. Millions of capital have been ready and are still ready and anxious for investment, if fair and safe provisions may be obtained. In the meantime enterprises under previous legislation, forever free from special burdens, are monopolizing the water-power markets, in which the supply is thus artificially limited. Thus by discouraging development of water-power commercially feasible, as well as by exacting charges which new enterprises might prefer to bear rather than to be deprived of the necessary legislative consent, a monopolistic advantage is given to those who have already developed, as against those who propose, future developments. In the meantime the large undeveloped water-powers of the country are going to waste and conservation, in its own name, is defeating itself.

FEDERAL OBSTACLES TO CONSERVATION.

From the foregoing it is apparent that the affirmative policy of the Congress, so far as formulated, in respect to water-powers, is already too much one of reservation, or of hindrance to development. It is antagonistic to the utilization of this inexhaustible source of energy, and, therefore, an obstacle to conservation. The failure on the part of the Congress to establish a definite, consistent, and business-like policy is an additional obstacle. The difficulties are further increased by the attitude of those who insist, under the guise of conserving natural resources, upon using the water-powers as a means of revenue to the federal government, instead of regarding them as an economical and practical means of promoting the industrial developments of the localities in which they are situated. Indeed, in some instances where the question of federal revenue is not involved, there seems to be a disposition to assert the right of control merely for the sake of emphasizing

the power of the federal government as against the rights of the respective states and of their citizens.

In one instance even treaty provisions are disregarded. The United States and Great Britain, in 1910, ratified a treaty between the two nations by which the diversions for power at Niagara Falls were expressly limited to specific quantities for each side of the international boundary.³⁵ The amounts of diversion allowed were fixed from the computations of the United States engineers and other experts as being neither a hindrance to navigation nor to the scenic beauty of the Falls. Pending the negotiations for the treaty, and as a tentative arrangement, a statute was passed limiting the amounts of diversion upon this side of the river to amounts less than those afterwards fixed by the treaty and restricting importation to this side of power from the Canadian side.³⁶ Since the ratification of the treaty, several bills have been presented to carry out its object and terms, but for successive sessions such bills have been opposed by those assuming to act in the interests of conservation, so that the restrictions and limitations existing before the treaty have been continued in force.

The treaty expressly limited the diversion upon the American side to less than thirty-six per cent of the total amount of diversion allowed upon both sides, the total amount being fixed below the amount which would affect either navigation or scenic beauty or any public interest. That the diversions could not affect navigation in the slightest degree is apparent and is conceded by all engineers. The only basis for federal interference is therefore lacking. However, under an imaginary constitutional power in the Congress to protect scenic beauty, the Burton Act of 1906 was passed pending the treaty negotiations. A dozen years before, in accordance with their property rights, arising from riparian holdings and legislative grants from the state of New York, two companies had invested millions of dollars in the construction of plants, upon the American side, requiring for their operation at full capacity diversions from the falls of amounts of water not exceeding the amounts afterwards fixed by the treaty for the American side. The conser-

³⁵ Treaty between United States and Great Britain as to boundary waters between United States and Canada, proclaimed May 13, 1910, Treaty Series 548.

³⁶ Act of June 29, 1906, and joint resolution of March 3, 1909, being House Joint Resolution No. 262.

vation of scenic beauty was thus assured by the treaty provisions and at the same time interference with navigation was prevented, for the treaty amounts were based upon careful scientific investigation. It is manifest that, especially after the treaty, the Congress had no constitutional right to limit directly or indirectly diversions upon either side, — at least, not to any amounts below those fixed by the treaty. Diversions beyond the treaty limits were, by the treaty, discouraged and, in fact, prevented. The treaty contemplated unrestricted rights of importation.

None of the American investors have ever asked Congress for permission to divert a single cubic foot of water beyond the limits expressly fixed by the treaty; but have confined their requests to have the statutory authority for permits extended to the limits fixed by the treaty. At the same time, Canadian investors have asked for permission to import to this side the electrical energy manufactured from the water-power that they develop within the limits fixed by the treaty. Nevertheless, these requests, which are consistent with and promotive of the true policy of conservation, whether it be viewed as a conservation of power or of scenic beauty, have been vigorously opposed by certain self-styled "defenders" of Niagara, who misrepresent to the public the nature of the requests made by the American investors at Niagara and distort those reasonable requests into demands for unlimited permits for diversion. Those investors are heralded as assailants of the beautiful Niagara. Their modest prayer for an observation of the limited treaty provisions is heralded as a wholesale "attack" which threatens the very "life of the falls" and as an attempt to "cut the throat of beauty for gold."³⁷ It has been demonstrated that whatever unwatering of the crest of the falls has occurred in past years has been due entirely to the natural gradual recession of the apex of the Horseshoe falls, and is not due at all to any water-power diversions. In fact, the extra amount of diversion which is asked, and which is allowed by the treaty, upon the American side, over the amounts now allowed by continuing in force the original statute enacted as a *modus vivendi* pending the negotiations of the

³⁷ See "The Defender of Niagara" in *Cosmopolitan Magazine*, April, 1913. For similar, prejudiced and grossly erroneous views of the Niagara question see also "An Expensive Experiment" by R. P. Bolton, *The Baker & Taylor Co.*, New York, 1913; and the "Outlook," March 29, 1913.

treaty, is only 4400 cubic feet a second, or less than eight per cent of the total amount fixed by the treaty and less than two per cent of the total ordinary flow over the falls, which amount has been demonstrated to be utterly inappreciable so far as it could possibly affect either scenic beauty or any public interest.³⁸

The result has been the prevention of further development of industries on this side of the river, where there is a demand for immediate use of all the electrical energy that could be produced on the American side and of all that could be imported from the Canadian side; at the same time there is a forced and steadily increasing industrial development upon the Canadian side, where the use of the falls for power is limited only by the terms of the treaty. As fast as the electrical energy manufactured from the water-power allowed to the Canadian side is taken up there, the amount which can ever be imported to this country is permanently decreased. The extra amount allowed by the treaty for use upon this side over the limit retained by federal legislation, is still unutilized. Thus, in the name of conservation, industrial growth and all other advantages of water-power development and use are promoted by the United States Congress upon the Canadian side at the same time that they are retarded upon the American side. A more unreasonable and suicidal thwarting of the true policy of conservation could not be devised.

CONSERVATION UNDER STATE LEGISLATION.

Some well-meaning friends of conservation seem to be obsessed with the idea that ownership and control by the government, federal or state, of water-powers must be extended to the utmost limits, and that constitutional prohibitions may be justifiably disregarded or evaded in so far as they stand in the way of carrying

³⁸ See Report of Hearings before House Committee on Foreign Affairs, January 16, 1912, and following days, on House bills, "to give effect to the fifth article of treaty between the United States and Great Britain, signed January 11, 1909"; also report of hearings before House Committee on Rivers and Harbors, January, 1911, on the same subject; also Report of Hearings before House Committee on Rivers and Harbors, April, 1906, on the Burton Act; also report on "Water-Powers of Canada," published by Commission of Conservation of Canada, September, 1911; also see Reports No. 1488, House Committee on Foreign Affairs, February 8 and February 25, 1913, 62d Congress, 3d Session, majority and minority reports on H. R. 28674.

out this idea. It is the blind adherence to this unlawful and unwise policy which has the greatest effect in maintaining a barrier to what is really the conservation of water-powers, because it discourages and obstructs proper and constitutional legislation for the promotion of water-power development. That this is true with respect to federal legislation has been shown. But the same fallacy prevails among many conservationists with respect to state legislation. The theory is too prevalent that, because the federal Supreme Court has fixed the state law as the law of property rights with regard to water-powers, therefore the power and authority of the state over water-powers are unlimited. This idea disregards the fundamental proposition of constitutional law that, where vested property rights are established by the common law of a state, then such rights cannot be diminished or destroyed except by due process of law; and that, therefore, they cannot be taken away by any fiat of the voters whether in the form of a state statute or in the form of an amendment to the state constitution. The law of the state by which property rights are determined is the state common law as adjudicated by the decisions of the highest court of the state.³⁹ The rule of property right so fixed is binding upon all courts, including the federal courts, so far as concerns property rights within the state in question. The fact that in some states a more extended rule of ownership and control by the state has been established than in other states as the law of property rights, or that the rule is radically different in different states, does not justify the conclusion that any state may arbitrarily change the rule of property rights from that which has once been established. The fact that one rule in one state has been established with a better regard for public policy, than the rule established in another state, or that one is more promotive of general conservation than another, does not permit an arbitrary change of property law in a state where the rule may be less favorable to general public advantage. As to each state we have to take the rule of property rights as we there find it, and, having regard for that rule, work out, as far as possible, consistently with the law, the objects of conservation.

³⁹ *St. Anthony Falls Water-Power Co. v. Water Commissioners*, 168 U. S. 349, 365, 371, and cases cited in the opinion; *Fallbrook Irrigation District v. Bradley*, 164 U. S. 112, 159 (1896); *Kansas v. Colorado*, 206 U. S. 46, 94 (1907); *United States v. Rio Grande Co.*, 174 U. S. 690, 702 (1899).

The too prevalent disregard of these distinctions, and persistent attempts, regardless of constitutional limitations, to thrust aside these obstacles presented by the law, have tended to discredit and to retard the cause of conservation.

Attempt at conservation by constitutional fiat is illustrated by the adoption, in 1889, in the state of North Dakota, of a constitutional amendment providing that "all flowing streams and natural watercourses shall forever remain the property of the State for mining, irrigation, and manufacturing purposes."⁴⁰ The decisions of the state supreme court had, as against subsequent appropriation, already established the law of riparian rights as the property law of that state.⁴¹ In a later case this constitutional provision was invoked as abolishing that law of riparian rights; but the state supreme court held that this section of the constitution would itself be unconstitutional if it appeared that the property rights, as fixed by the previous decisions of the state court, were thereby to be invaded.⁴² Similar attempts, all of them unsuccessful, have been made to change a state common law of riparian rights to one of state control and ownership of water-powers. Such was the attempt made in the Minnesota legislature of 1911 when the Wisconsin water-power statute of that year was urged for passage. Although it passed the house it was stopped in the senate upon the opinion of the attorney-general that it was confiscatory and unconstitutional.

The same year, however, a statute was passed in Wisconsin attempting to change the law of riparian rights established in that state to the law of state ownership and control of water-powers.⁴³ This legislation proceeded on the theory, declared in its preamble, that all the beneficial use and natural energy of the water of navigable streams in that state belong to the state in trust for all the people and are subject to the control of the state for the public good. Beside other drastic provisions, it attempted to levy upon the private owner in behalf of the state tolls at varying rates per horse-power. The supreme court of the state unanimously declared the statute in conflict with the established property law, and

⁴⁰ N. D. Const., Art. XVII, sec. 210.

⁴¹ *Sturr v. Beck*, 6 Dak. 71, 133 U. S. 541 (1890).

⁴² *Bigelow v. Draper*, 6 N. D. 152, 69 N. W. 570 (1896).

⁴³ Wis. Laws, 1911, c. 652.

confiscatory and unconstitutional.⁴⁴ The further significance of this statute as an alleged conservation measure is shown by the fact that the passage of such a statute was made the chief feature of the political campaign throughout the state prior to the election of the legislature and that it was urged to the voters of the state and afterwards to the legislature as a progressive conservation measure. However, from the time the agitation started until the decision of the supreme court, invalidating the statute, was filed, water-power development in the state of Wisconsin was stopped. Indeed, despite the action of the state supreme court, propositions for water-power development in that state are still regarded by investors as unsafe. They prefer investments in localities where there has been a different demonstration as to the prevailing idea of what constitutes conservation.

Conservation of water-powers, whether through national or state legislation, will never be realized, so long as the fallacy persists that the interests of conservation and the interests of water-power owners are at war with each other. This fallacy has been the cause of most of the erroneous and futile attempts by legislatures to solve, with respect of water-powers, the problem of their conservation. This fallacy itself has sprung from a failure on the part of both classes of interests to appreciate the underlying principles involved. Advocacy of hasty and extreme measures, inimical to the property rights of private owners and rendering hazardous the necessary investments of capital, has tended to create a hostile attitude on the part of private interests toward the carrying out of a conservation policy. This hostility, in its turn, incites a further spirit of antagonism on the part of the forces of conservation. The questions of conservation become confounded with questions concerning monopoly, competition, and the relations between the producer and the consumer. But those representing the two classes of interests involved, those representing the public and those representing investors, are now realizing, more than ever before, the fact that real advantage to any locality or to the public at large lies upon the same lines as real advantage to the holders of investments in water-power development. Both should recognize the feasibility

⁴⁴ State *ex rel.* Wausau St. Ry. Co. v. Bancroft, 148 Wis. 124, 134 N. W. 330 (1912).

of getting together on some basis which will, at the same time that it admits of adequate protection to the public, also provide an attractive field for investment. Public-utility companies should become convinced that a proper and fair restriction and regulation in the operation of their properties are reasonable and necessary, and eventually promotive of their own best interests. They should be convinced, as they are more and more, that reasonable concessions, even if beyond the limit of their exact legal obligations, assure to them a readiness on the part of legislative bodies to yield also something in return, including a more certain tenure and safer and more comprehensive protection, through legislation, of the beneficial use belonging to them as proprietors.⁴⁵

Both the public and the private interests involved require water-power utilization and further opportunities and facilities for utilization. The fact should be recognized in legislatures, national and state, that the questions of the control of rates, of proper regulation and of prevention of monopoly, can be adequately solved without being confused with legislation enacted for the purpose of encouraging and promoting water-power development. It should be recognized that resort need not be had to specious pretexts to strain or evade the law governing the rights of states or of individuals, and that the refraining from undue and illegal advantage and privilege, by either the government or the individual, is not inconsistent with a proper conservation policy.

Adequate water-power development and its economical operation mean, to some extent at least, combination and consolidation. They involve large capital investments. But they do not, for that reason, mean, as is too often assumed, either a menace to the general public interest or a menace to the consumer himself. It is through private ownership and control of water-powers that the objects of conservation can best be accomplished. Investment of private capital in their development should be encouraged. The policy of a paternalistic or socialistic control by the government, in order to extract directly from the proceeds of water-power developments revenues or charges for the benefit of the people as a whole, is antagonistic to the purposes of conservation. Such a policy is

⁴⁵ See "The Right Use of the Nation's Water Power" by M. O. Leighton, Chief Hydrographer of the United States Geological Survey, *Leslie's Weekly*, February 20, 1913.

founded upon an unreasonable misapprehension of the significance of private ownership and of large investments. Mr. Justice Holmes recently said: ⁴⁸

"We are apt to think of ownership as a terminus, not as a gateway — and not to realize that, except the tax levied for personal consumption, large ownership means investment, and investment means the direction of labor toward the production of the greatest returns, returns that so far as they are great show by that very fact that they are consumed by the many, not alone by the few. If I might ride a hobby for an instant, I should say we need to think things instead of words — to drop ownership, money, etc., and to think of the stream of products; of wheat and cloth and railway travel. When we do, it is obvious that the many consume them; that they now as truly have substantially all there is, as if the title were in the United States; that the great body of property is socially administered now, and that the function of private ownership is to divine in advance the equilibrium of social desires — which socialism equally would have to divine, but which, under the illusion of self-seeking, is more poignantly and shrewdly foreseen."

The policy of conservation, as applied to water-powers, should be recognized as the policy of promoting, as rapidly and as extensively as possible, within the law, the utilization of the perpetual and inexhaustible resources afforded by every water-power in this country, the development of which is, or can be made, economically feasible.

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MINNEAPOLIS, MINNESOTA.

* Speech of Mr. Justice Holmes at Dinner of the Harvard Law Association of New York, February 15, 1913, Senate Document No. 1106, 62d Congress, 3d Session.

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THE CONSERVATION OF WATER POWERS

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THE CONSERVATION OF WATER POWERS.

"Conservation" is a much used, a much abused, term. In its name, many salutary reforms have been advocated; some have been accomplished. In its name, also, have been committed many sins, both of commission and of omission. Some men who arrogate to themselves the title of "conservationists" are indictable under the charge of misbranding. Many whose views are attacked as antagonistic to public interest, as selfish and nonprogressive, and as hostile to the policy of conservation are, nevertheless, sane and discriminating advocates of a wise public policy.

The question of conservation, as the term is here used, has to do with the policy not only of the Governments, Federal and State, but also of the people at large, with regard to those resources useful to man which are supplied by nature in a form easily adaptable to immediate utilization, and particularly with regard to those natural resources, not uniformly distributed, which are limited in extent or in quantity. Among such natural resources are the minerals in the earth, the forests growing upon the earth, and the waters flowing over the earth. Whether applied to any or all of these, a policy of conservation should, manifestly, be directed neither to a locking up or withdrawal from use on the one hand, nor to an indiscriminate or wasteful utilization upon the other hand. Economy in its best sense should prevail, but an economy which has regard for both the present and the coming generations. These natural resources are placed by nature for the use of man, the man of to-day and the man of the future. Where present and future interests conflict, those of the present are paramount. It is not justifiable unduly to place burdens and restrictions upon the present generation out of regard for those to come after us, nor unduly, by present extravagance, to impose unnecessary burdens upon the future. More than that, neither desires for the present nor for the future should be made the justification or pretext for measures in conflict with the fundamental laws of personal and property rights which are, under our constitutional Government, the safeguards of our free institutions.

Conservation, then, should denote the policy of the economical utilization of these natural resources, and of the utmost protection, within the law, of such economy, consistent with the needs of present and of future generations.

IMPORTANCE OF WATER-POWER CONSERVATION.

The two great natural sources of energy available are coal deposits and water powers.¹ The total stationary power used in the United States is estimated at over 30,000,000 horsepower.² The total

¹ For the purpose of this discussion gas and oil are assumed as part of coal deposits.

² See the report of the United States Commissioner of Corporations on "Water Power Development in the United States," issued by the Department of Commerce and Labor, Mar. 14, 1912.

developed water power is about 6,000,000 horsepower, and of the latter about three-quarters is commercial power; that is, power produced for sale. The amount of water power now economically capable of development is not less than 25,000,000 horsepower, including that already developed,¹ and is by some authorities estimated as high as 35,000,000 horsepowers.² The total potential water power of the United States is estimated at 200,000,000 horsepower.³ The present annual coal consumption in the United States is over 500,000,000 tons, and at the present rate of consumption and annual increase the supply of anthracite coal will be exhausted before the end of the present century. The known supply of bituminous coal, while sufficient for six or seven centuries to come, assuming that the present rate of consumption continues, is in fact limited, and its cost to the consumer gradually increases as the supply diminishes.⁴ While the cost of developing water power and the hazards of the business are great, the development of electrical transmission of energy has made water-power development feasible as a business proposition as against the cost of steam power, to the extent that the amount of water power which is yet undeveloped, but which could be economically developed at the present time, amounts, as shown above, to about 20,000,000 horsepower. As fuel grows scarcer and as the science of electrical transmission progresses further water powers, now merely potential, will be available for the market. It is computed that under average conditions about 15 tons of coal are required to generate 1 horsepower a year.⁵ The use, therefore, of the 20,000,000 horsepower of water power now unused but economically available would reduce the annual coal consumption by approximately 300,000,000 tons; that is, by more than 50 per cent. Thus by the extended utilization of one source of energy, water power, two objects of conservation would be accomplished—the utilization, without loss, of one natural resource and the saving from loss of another.

CONSERVATION OF WATER POWERS MEANS EXTENSION OF THEIR USE.

Herein lies the peculiar adaptability of the policy of conservation to the use of water powers. The three natural resources referred to represent fairly three distinct classes, or kinds, differing in respect of their quality of persistence. The mineral supply, in this case the coal deposits, is limited by its fixed and approximately computable quantity. In the case of timber, while the present supply is limited, it, nevertheless, is naturally renewed. Indeed, the nonuse of the quantity ripe for use is itself a waste; but, comparatively speaking, timber is a recurring, even if not a constant and undiminishing, natural resource. But water power is constant. The supply is not diminished by use, for in itself it consists in the development and use of two constant factors, (1) supply of water and (2) a head and fall, through which the weight of the water creates energy developable for practical use.

¹ Report of Commissioner of Corporations, *supra*; hearings on the Development and Control of Water Power, S. Doc. 274, 62d Cong., 2d sess., pp. 11, 14, 211, 273.

² S. Doc. 274, 62d Cong., 2d sess., pp. 11, 14, 32, 211, 272.

³ S. Doc. 274, 62d Cong., 2d sess., p. 275.

⁴ H. Sinclair Putnam in Proceedings of the Conference of Governors, 1908, p. 297; M. O. Leighton, of United States Geological Survey, *Annals of the American Academy of Political and Social Science*, May, 1909, p. 54.

⁵ S. Doc. 274, pp. 26, 32.

Every ton of coal used is forever lost as a source of energy. The use of every 15 tons of coal means that the natural sources of energy have been forever diminished by an amount equivalent to the use of 1 horsepower for an entire year. To the extent that any quantity of coal is used up for energy before the time when its use is necessary, in place of an equal amount of energy from water power, such use constitutes a waste of energy. On the other hand, the nonuse of any quantity of water power, through lack of development and of use of water powers, the development of which is commercially feasible, means a waste of energy which can never be recouped. So far as such waste of water-power energy is accompanied by the further waste of coal energy, which the water-power energy might otherwise replace, there results a double and continuous loss or waste of the energy available from natural resources and, therefore, of these two natural resources themselves. The primary object of the conservation of natural resources, which is to preserve them from waste, is manifestly doubly opposed by any policy which defeats or postpones the development and utilization of water-power energy.

Because it is inexhaustible and because its use replaces that of another and exhaustible natural source of energy, water power is the most potent of all natural resources, as a subject and agency of conservation. In the case of a limited, exhaustible, and rapidly diminishing supply of a natural resource, such as that of coal deposits, the forces of conservation should be directed to the prevention of use, as far as consistently possible. But the correct view of conservation inevitably leads to the demand that, in the case of water powers, there shall be encouraged and promoted the greatest and most immediate use possible.

What, then, should be the policy and attitude of our State and National legislatures and of the people as a whole with regard to the conservation of water powers, which, as we have seen, means their utilization, immediately and universally, and to the greatest extent possible, consistent with the fundamental constitutional law governing the rights and obligations between the Federal and State Governments and also between the people at large, represented by these governments and individuals?

THE GOVERNMENT AS SOVEREIGN AND AS PROPRIETOR.

As applied to water powers, a policy of reservation is obviously repugnant to conservation, for the latter manifestly means immediate utilization to the greatest extent possible. Again, legislative measures, National and State, while directed to promote present and general utilization, should, in their purpose and effect, be made consistent with the fundamental law of private property rights. They should also be in harmony with the established rights and authority of the Federal and State Governments. A default in either of these particulars signifies a misapprehension of the real meaning and purpose of conservation and involves a departure from the principles of that wise and progressive policy. Any unnecessary obstacle set up against the ready development and use of water powers indicates a policy of reservation instead of utilization. A disregard, moreover, of the rights of individuals by either the Federal or State Governments, or of the rights of States by the Federal Government,

leads to an unwarranted encroachment, under the guise of serving a paramount public interest, upon the authority and rights of the States, or upon the property rights of individuals, and makes conservation a mere pretext for confiscation.

From the failure to recognize these principles of conservation peculiarly applicable to water powers, have arisen many mistakes in legislation heretofore enacted ostensibly in the interests of conservation. Such legislation affects two classes of property—the one where the element of proprietorship in the Government is absent, and where its only rights are those arising by virtue of its sovereign authority to regulate commerce; the other, where the Government, in addition to its limited rights as sovereign, holds the water-power lands and rights as proprietor. Obviously the rights, obligations, and authority of a purely sovereign power of control must be distinguished from those where the *ius publicum* and the *ius privatum* are combined. To the latter class belongs the control by the Federal Government of water powers which are part of the public domain; also those appurtenant to lands and rights which are acquired, by purchase or expropriation, by a Government, National or State, for a use authorized in the public interest. To the former class belongs the control of water powers which, under the established law, are a part of the riparian land, the title to which is vested in private ownership; also, as against the Federal Government, where the ownership or power of control is vested in the States.

With respect to these classes of power of control, let us examine the present legislative policy. First, as to water powers on the public domain.

WATER POWERS ON THE PUBLIC DOMAIN.

As to lands upon the public domain, the Federal Government is both sovereign and proprietor. The question of its control of water powers, which are part of the public domain, is, therefore, one of policy rather than one of constitutional law. The present avowed policy, however, is one of delay, hindrance, and reservation rather than one of encouragement to use. The public domain is mostly confined to the far Western States, where, particularly in the mountainous regions, large and valuable undeveloped water powers have long lain dormant; but their development is now economically feasible for markets creating a demand. They are potentially the source of stupendous industrial growth. Water-power development, however, involves immense expense in construction and maintenance of water power and electrical plants, and of transmission lines. Large capital investment is necessary. Capital is furnished, as any other commodity, upon terms commensurate with the hazards of the enterprise, and with the degree of certainty of tenure and of the probability of the ultimate return of the actual investment with fair profits thereon. As the Government owns the water powers on the public domain, it is proper that a charge, fair under all the circumstances, should be reserved for the right to utilize them. But the uncertainty of tenure and the onerous conditions imposed in grants of water-power rights upon the public domain have prevented any considerable development. A company or an individual desiring to develop water power upon the public domain must first appropriate

the water under the laws of the State where the power site is situated. This provision recognizes the laws of those States in which most of the public domain is situated, and where the common law of riparian rights has been replaced or modified by that of prior appropriation. It recognizes, also, the rule, established as to all States, that, as between the individual and the Government, Federal or State, the individual rights are established and enforced according to the property law of the State wherein the land is situated, subject always to the authority of the Congress to regulate commerce; that is, in the case of waterways, to regulate navigation.¹ Before development one must, upon application, obtain the permission of the Secretary of Agriculture or the Secretary of the Interior, to use such portion of the public domain as may be necessary for a dam, power plant, and transmission lines; and such permit is revocable at the will of such department and subject to such changes and conditions as it may, from time to time, see fit to impose. The land still remains subject to entry under the homestead or mining laws and such entry may effect a revocation of the permit. If the jurisdiction over the land in question is transferred from one department to another, the permit is thereby automatically revoked. There is no provision for uniform rules, to insure certainty or consistency in the privileges conferred or in the obligations imposed.² This policy of legislative discouragement evolved into an avowed legislative policy of complete reservation, when, in 1910, the Congress authorized the President, in his discretion, to withdraw from settlement, location, sale, or entry, any of the public lands and to reserve the same for water-power sites or other enumerated uses until such withdrawals or reservations should be revoked.³ Under the authority thus granted there have been withdrawn from location or use most of the desirable water-power sites upon the public domain. The amount of water power now undeveloped and capable of development in the national forests is estimated at over 13,000,000 horsepower, as against about 300,000 horsepower now developed. This does not include a very large, but less proportionate, amount of undeveloped water power on other parts of the public domain.⁴

It is manifest that a proper conservation policy demands that all these water powers be available for immediate use and that a definite, consistent policy be adopted with regard to their control. Safeguards may be provided against purely speculative entries and against monopoly. At the same time the greatest encouragement should be given to capital for investment. The chances of any automatic revocation of permits should be eliminated. The power of arbitrary revocation should not be reserved. If a time limit is fixed, it should be for a long period, not less than 50 years. But any fixed time limit without provisions for renewal upon definite terms is a great obstacle to investment. Investors are reasonably entitled to be assured of a return of their investment with an annual profit commensurate with the hazards incurred. If at the

¹ Act of July 26, 1866, U. S. Rev. Stat., sec. 2339; act of July 9, 1870, U. S. Rev. Stat., sec. 2340; act of Mar. 3, 1877 (Desert Land Act), 19 U. S. Stat. L., 377; *St. Anthony Falls Water Power Co. v. Water Commissioners*, 168 U. S., 358, 365.

² Act of Feb. 26, 1897, 29 U. S. Stat. L., 599; act of June 4, 1897, 30 U. S. Stat. L., 34-36; act of Feb. 15, 1901, 31 U. S. Stat. L., 790; act of Feb. 1, 1905, 33 U. S. Stat. L., 628.

³ Act of June 25, 1910, 36 U. S. Stat. L., 847.

⁴ Report of Commissioner of Corporations on Water Power Development in United States, Mar. 14, 1912, pp. 194-196.

end of a fixed period they are to forfeit their plant, or be subject to a renewal of their permit upon terms not agreed upon in advance, or be compelled to turn over their plant upon the payment merely of its then cost of reproduction, their service charges must be increased so that at the expiration of the permit they shall have received from the consumers not only interest and profits but also the entire amount originally invested in structures, renewals, and improvements. Assurances of continuity of tenure, either by provision for renewals of permits for definite terms or by perpetual permits, subject to specific rates for rentals or charges measured by the success of the enterprise as evidenced by profits, would establish a tangible and businesslike basis for investment. A permit should be revocable only for cause and after an adjudication. Rates to consumers should be subject to the control of the various States in which the product is supplied, thus making the control of rates subject to the same rules as are applicable to other similar public-service enterprises.

These are simple problems and can be easily and wisely solved if they are approached in the true conservation spirit. The present obstacle to their solution is the too prevalent idea that proper regard for the interests of private investors is a heresy of conservation and that the reservation to the Government of the very utmost possible of profit and of advantage is of the essence of conservation.

WATER POWER AT GOVERNMENT NAVIGATION DAMS.

Under its constitutional power to regulate commerce the Congress has paramount control of navigation in the navigable streams and waters of the United States.¹ Under this power the Federal Government, with the authority of the Congress, has constructed and maintains on rivers, at various points in the United States, navigation dams with locks and power appliances necessary for their operation. For such purpose it sometimes purchases or expropriates the necessary riparian lands and rights, and thereby becomes the proprietor, not only of the structures and appurtenant appliances, but also of the riparian land and rights included in or affected by the structures and by their operation, and hence is owner of the water power developed at such a dam. It has no power or authority to construct or operate a dam for water-power purposes except for its own direct use. The Government could not, either as proprietor or sovereign, erect and operate a dam primarily for water power, and sell or lease either the structures and water-power rights or the power produced. Where, however, it owns water power created incidentally to its authorized navigation improvements it may sell or lease the surplus water not required for its own use, and upon such terms as it may choose to make with any purchaser or lessee. The right to make terms and conditions for such use of the water power does not rest upon the fact that the water power is incidental to a navigation improvement; neither does it rest upon the fact that the Government has control of the river for the purposes of navigation. This right is based expressly

¹ *Gibbons v. Ogden*, 9 Wheat. (U. S.), 1; *The Genesee Chief v. Fitzhugh*, 12 How. (U. S.), 443.

upon the fact that the Government, by virtue of its acquirement of the riparian rights, holds a proprietary interest in the water power in question, and that, as such proprietor, it may deal as any holder of a proprietary interest.¹

The Federal Government has a certain power, arising by virtue of its sovereign power under the commerce clause, of control over navigation. This sovereign power is limited. By virtue of that power alone it has no ownership or control over water powers as such, whether they be developed at navigation dams or otherwise. It may acquire further rights, either of ownership or of control, by attaching to its sovereign right certain proprietary rights; and it is the extent of its acquirement of such proprietary rights which, mainly, determines the relations and obligations between the Government and the riparian. In the foregoing I have assumed that when the Government entered upon the construction of a navigation dam it acquired not only sufficient riparian land for its dam abutments and other rights within the bed, but also the riparian water-power rights affected by the dam; that is, that it became, by purchase or otherwise, through private or State grants, or both, proprietor of the water power itself. Such were the circumstances in the Case of the Green Bay Co. v. Patten Paper Co.

To cite that case, however, as authority for the claim that, because the navigation dam has been constructed by the Government under its constitutional power of control over navigation, it thereby acquires either ownership or control over all the water power developed at the navigation dam, is to lose sight of many obvious and controlling distinctions. It is not necessary here to decide the question, which is sometimes disputed, whether the Government has the right to condemn, or even to acquire by purchase, any water-power rights beyond those which are reasonably necessary to enable it to construct and operate the navigation dam. That it may do so, at least to the extent required for navigation purposes, is manifest. That it has no ownership or control of any amount of water power beyond the quantity required for such navigation purposes, except through an acquirement for which compensation is made, is equally manifest. The mere fact that the surplus water power is developed by the navigation dam does not change the proprietary right to such water power from the riparian to the sovereign. The water power is not "created" by the dam. It was created by nature when the quantity of flow and the head and fall were made a natural incident to the riparian real estate. Its ownership in the riparian, established by nature, was confirmed by the law of the land which vested it in him as a property right *iure naturæ*. Its incidental development through a construction by one who is not its owner does not change its ownership any more than would the fetching to market by one man of goods owned by another.

It is consistent with its constitutional power of navigation control that the Government should have or acquire the right to occupy the bed of the stream with its navigation dam, the right thereby to develop and use such an amount of water power as is necessary to operate the dam for navigation purposes, the right to raise and lower the waters in the pool above the dam in the operation of the locks,

¹ Green Bay Co. v. The Patten Paper Co., 172 U. S., 58; 173 U. S., 179.

the right to acquire land for dam abutments, flowage, and other necessary purposes, and that, to the extent reasonably necessary for purely navigation purposes, it should assert and exercise these rights, so belonging to it or so acquired, as paramount to the rights of ownership or of use belonging to the riparian. But the reasonable necessity for navigation purposes marks the limit of the rights which the Government has or can acquire against the will of the riparian, or as purely paramount rights.

We have here a surplus water power, developed incidentally to the navigation improvement, the Government owning and controlling to the limit of navigation interest, the riparian owning the remaining rights. This is an obverse case to the development by the riparian of the water-power dam, under consent of the Government acting in the interests of navigation; for in the latter case the navigation facilities are incidental to the water-power improvement. In both instances the question of the rights and obligations between the Government and the riparian can be properly solved only by observing the distinctions arising from the sources of their respective rights. If it were physically feasible, as it might be in some cases, that the surplus water power could be utilized without the aid of the navigation dam, the riparian would have the right to enjoy the full beneficial use of such power, subject to the condition that he did not affect the flow at the navigation dam in such a way as to interfere with its operation for navigation. This might be done, for example, by constructing around the pool created by the navigation dam or, if the contour of the river permitted, by constructing across the owner's land from a point above the pool to a point below the dam; but the expense of such development in most instances would be prohibitive. The possibility, however, illustrates the nature of the riparian right. On the other hand, to allow the riparian the free use of the development of his surplus water power afforded by the navigation dam itself, would give to him a financial advantage from the navigation development. If, therefore, he were to use his surplus water power under the navigation development, instead of by a more expensive independent water-power development, it would be proper, regardless of his technical legal rights, that he should pay to the Government for such advantage an annual charge based upon the fair cost of construction and maintenance, not of the navigation dam and facilities as constructed by the Government, but of such water-power dam as would have been reasonably necessary if the navigation improvement had not been made. These should be matters of contract adjustment between the Government and the riparian. What we are here interested in is the fact that, without acquirement by the Government with compensation, the surplus water power at navigation dams belongs to the riparian; meaning by surplus water power, all water power and all use of the water, not reasonably necessary to the operation of the dam as a navigation facility.

This distinction between the proprietary interest of the Government and its right of control as sovereign under its constitutional power to regulate navigation is an important one, for the refusal by avowed advocates of conservation to recognize this distinction has occasioned disputes which have become the most serious obstruction to the utilization and therefore to the conservation of water powers

appurtenant to private riparian lands. This leads to a discussion of the legislative policy of conservation as applied to private riparian water powers upon navigable streams.

PRIVATE RIPARIAN WATER POWERS.

Subject to the paramount control of the Federal Government to protect navigation, as already defined, the control of water powers upon all streams, navigable or unnavigable, belongs to the States within which the water powers are located. This applies to all the original States and to States since admitted to the Union, and as between the State and individuals the proprietary interest and its character and extent are determined by the law of property rights as established in the respective States.¹ In accordance with these principles, so definitely fixed, the Congress has expressly recognized by Federal statutes the controlling efficacy of local property laws and customs with regard to water rights existing in those States where the common law has been either repudiated or modified, and has in statutory terms confirmed the rule established by the decisions just cited from the Federal Supreme Court.² Nevertheless, inconsistently in the face of these admitted rules of State control for water-power purposes, the United States Forest Service, assuming to act under its authority for establishing rules, has indirectly encroached upon the power of the States to control watercourses by establishing restrictive rules and regulations for such parts of the public domain as are essential for dam and reservoir sites, canals, transmission lines, and for similar uses, thus extending, indirectly, the policy or lack of policy of revocable permits and insecure tenure of investors to the development of water powers upon many navigable and unnavigable streams and watercourses, the control of which for water-power purposes belongs to the States.³

Accordingly, in order to determine the law of property rights of the individual as against the State, or of either or both as against the Federal Government, and therefore to determine the rule by which the Federal Government itself and its courts are bound, we have to resort to the law as established by the respective States. So it is that in Arizona, Colorado, Idaho, New Mexico, Nevada, Utah, and Wyoming the so-called "Colorado doctrine" governs, whereby the common law of riparian ownership and control of water powers is repudiated and the law of control by the State prevails, State statutes allowing and regulating appropriation of waters for power and other private uses with preference in the order of actual appropriation.⁴ In others of the far western States there prevails the "California doctrine," by which the common law of riparian rights governs, modified only by appropriation rights vested before the riparian lands passed to private ownership. This is the rule in California, Kansas, Montana, North Dakota, Oklahoma, South Dakota, and other States.⁵

¹ *St. Anthony Falls Water Power Co. v. Water Commissioners*, 168 U. S., 358, and cases cited in opinion.
² Act of July 26, 1866, 14 U. S. Stat. L., 253, and other Federal statutes above cited; also act of Mar. 3, 1891, repeal of timber culture laws; and act of June 4, 1897, the Forest Service.

³ See Forest Service "Use Book," issued by Secretary of Agriculture Dec., 28, 1910.

⁴ *Land & Canal Co. v. Ditch Co.*, 18 Colo., 1; *Kansas v. Colorado*, 206 U. S., 46; *Boquillas Co. v. Curtis*, 213 U. S., 339; *United States v. Rio Grande Co.*, 174 U. S., 706.

⁵ *Lux v. Haggis*, 69 Cal., 355; *Bigelow v. Draper*, 6 N. Dak., 152; *Sturr v. Beck*, 6 Dak., 71, 133 U. S., 541.

In the States lying east of or bordering upon the Mississippi River the common-law rule of riparian rights generally prevails. In these States, to the extent that the common law of riparian rights has been retained, the right to the beneficial use of the water power appurtenant to riparian land is a part and parcel of the land and belongs to the riparian owner. The State has no right of ownership or control in a proprietary sense. Its rights are confined to that of a sovereign power of control for the public use of navigation. All proprietary interests belong to the riparian and extend to all beneficial uses of the water power, including the revenues therefrom.¹ The distinction as to navigable streams, that in some States the riparian title extends only to high-water mark with the limited sovereign title in the bed and waters, and that in other States the riparian title extends to the middle of the stream, subject to the sovereign control for navigation, is, for practical purposes, merely speculative.² The rule is the same whether the stream be intrastate, interstate, or an international boundary.³

These rights, reserved to and established in the States, and these property rights of beneficial use, fixed by the law of the States in the riparian, are subject only to the paramount control of the Federal Government for the definite and specific purpose of protecting navigation. The authority of the Congress is limited to the prevention of any unreasonable interference with navigation.⁴ Although the interests of navigation are paramount, the sovereign right of the Government, national or State, to control or protect for this or other public use, while a conflicting interest, is not inconsistent with the exercise of the private right. Each must have regard for the other, but the private right persists up to the point where its exercise becomes an unreasonable interference with the public right. Both rights are limited, but the exercise of the limited public right can not be used as a means of extinguishing or appropriating the private right.⁵

GOVERNMENT CONTROL OF WATER-POWER DAMS.

With the object of protecting highway streams from unreasonable interference with navigation by private structures, including water-power dams, the Congress has provided that such structures are prohibited except with the consent of the Congress and that the plans shall be subject to the approval of the Secretary of War and of the Chief of Engineers.⁶ The influence of one view of the policy of conservation is shown by later legislation compelling, at the expense of private owners, the construction and maintenance in water-power dams of navigation locks and the furnishing of power to operate the same, and imposing charges out of revenues from the water power, to be used to promote navigation in other parts of the stream; also limiting the period of Federal consent to 50 years,

¹ *St. Anthony Falls Water Power Co. v. Water Commissioners*, 168 U. S., 358, citing the property law of Minnesota, which is substantially that of all riparian right States.

² *Union Depot Co. v. Brunswick*, 31 Minn., 297; *Lamprey v. State*, 52 Minn., 181; *Hobart v. Hall*, 174 Fed., 433, aff'd 186 Fed., 426.

³ *United States v. Chandler-Dunbar Co.*, 209 U. S., 447; *Niagara County v. College Rights Co.*, 111 N. Y., App. Div., 770; *People v. Smith*, 70 N. Y., App. Div. 543, aff'd 175 N. Y., 469.

⁴ *Union Bridge Co. v. United States*, 204 U. S., 399.

⁵ *State ex rel. Wausau Street R. Co. v. Bancroft*, 148 Wis., 124; *Crookston Co. v. Sprague*, 91 Minn., 461.

On this and other points see "Limitations of Federal Control of Water Powers," by Rome G. Brown, S. Doc. No. 721, 62d Cong., 2d sess.

⁶ Act of Sept. 19, 1890, 26 U. S. Stat. L., 426; act of July 13, 1892, 27 U. S. Stat. L., 88; act of Mar. 3, 1899, 30 U. S. Stat. L., 1121.

without any provisions for renewal or for compensation, at the expiration of that period, for the cost or value of structures.¹ As late as 1910 the National Waterways Commission, referring to the attempt of the Federal Government to collect tolls from the revenues of the private water-power owner, stated that it was without authority and that such tolls, if imposed, could not be collected, because the Federal Government has no proprietary interest and no right arbitrarily to grant or withhold consent, and that such tolls could not be levied on the theory of a tax, because they discriminated against future developments in favor of those already made.² This was after a most thorough examination of the practical and legal questions involved, both in Congress and at special hearings before the commission. Yet, in March, 1912, the same commission, in its final report, urges complete Federal control, under the commerce clause, of all hydroelectric plants upon all streams and in all States, and that, until such control be exercised, charges be made in favor of the Government out of the revenues of the private water powers in order to create a fund for the general purposes of navigation improvement.³ An attempt is now being made in the Congress to insert in the so-called Connecticut River bill a provision for such revenue charges, and the chief supporter of this proposition is the chairman of the National Waterways Commission.⁴ The same policy was also supported by Secretary of War Stimson, Secretary of the Interior Fisher, and by President Taft.⁵

The dispute over this question, which has been carried on in the Congress for several years, and which is now at its height, has been and threatens to continue a serious obstacle to private water-power development. It is a dispute between ultraconservationists upon the one side and the more conservative element upon the other. The source of the difficulty is obviously the growing tendency to depart from the practical and fundamental principle of conservation of water powers, which is to promote their immediate and general utilization, and to view private water powers primarily as a possible source of direct revenue for public use.

It is in this respect that the drastic innovations of the dam acts of 1906 and 1910 have discouraged water-power development. They put upon the owner the burden of a large initial expense in favor of the Government, and limit the right, acquired under consent of the Congress, to a period of 50 years, without any provision for adjustment between the owner and the Government at the end of that period. And the power is reserved to revoke the permit at any time, upon paying to the owner the then reasonable value of the physical plant.⁶ Such provisions are naturally obstacles to improvement; and the National Waterways Commission, in its final report, says, with reference to them, that—

experience has shown that these provisions are not well suited to encourage development of water power or to protect the public interest. Nothing is more discouraging

¹ Act of June 21, 1906, 34 U. S. Stat. L., 386; act of June 23, 1910, 36 U. S. Stat. L., 593.

² Report National Waterways Commission, S. Doc. No. 469, 62d Cong., 2d sess., p. 86.

³ Report National Waterways Commission, S. Doc. No. 469, 62d Cong., 2d sess., p. 61.

⁴ See majority and minority reports United States Senate Commerce Committee, No. 1131, 62d Cong., 3d sess. See "Who Owns the Water Powers," by Rome G. Brown, Case and Comment, March, 1913.

⁵ See Report Commerce Committee on the Coosa River bill, S. 7243, 62d Cong., 2d sess.; veto message of the President on the same bill; but compare opinion of Secretary of War Taft in Des Plaines River matter, Feb. 23, 1907; report House Committee on Interstate and Foreign Commerce, Feb. 25, 1909, 60th Cong., 2d sess.

⁶ Act of June 21, 1906, 34 U. S. Stat. L., 386; act of June 23, 1910, 36 U. S. Stat. L., 593.

to the investor of capital than uncertainty. * * * The necessity of amortizing the plant, in addition to all other costs of rendering the services, will inevitably result in an increased charge to the consumer, which amounts to a tax of doubtful equity on the local community for the benefit of the General Government. This unnecessary burden could be avoided if Congress would enact legislation providing for a more equitable form of franchise.¹

It is apparent that consent should be without limit of time, for the interests of navigation and of the public, so far as any public right of control over the water power exists, are preserved by the other general provisions of these acts.

Under the discussion of Government navigation dams above, the limitations between private and Federal control of the water powers in navigable streams have been suggested. In these questions there are three classes of disputants, representing two extremes and a conservative mean. One extreme claim is that, both at navigation dams and at private water-power dams, the Federal Government has a right to assert and should assert not only control but even ownership, of all the water power developed; that in the case of navigation dams no rights of the riparian should be recognized; and that in the case of water-power dams built by the riparian only such rights of beneficial use should be allowed to the riparian as will fairly compensate him for the expense which he has incurred in the improvement—a concession by the Government in consideration that the Government without expense has obtained, as incidental to the water-power development, certain navigation facilities. The other extreme is the claim that the riparian owns everything and that the Government should receive no facilities or advantage from the use of the bed, or of the real estate or of water-power rights, whether for navigation purposes or otherwise, except upon full compensation to the riparian.

Neither of these views is logical or consistent with the proper view of the constitutional rights and obligations of the parties concerned. It is practically impossible to fix in all cases an adjustment precisely in accordance with the strict legal rights. A proper governmental policy can never be adopted, however, without rejecting both these extreme views by a recognition of the general principles governing the constitutional powers of the Government upon the one hand and the property rights of the riparian upon the other.

It is hopeless to discuss these questions with those legislators who refuse to recognize any distinction between the constitutional *right* of the Congress, as fixed by a proper regard for the limitations of constitutional authority, and the *power* of the Congress to do this or that thing, measuring such power only by the possible inability of those against whom it is exerted to protect themselves. There is a vast difference between mere physical or brute power and a right based upon authority. It is true that under its authority to protect navigation the Congress may prohibit, as it does, the construction of private water-power dams in navigable streams, except with congressional consent. But its right to reserve and exercise such power of consent extends no further than the general right to which it is an incident, that is, the right to protect navigation. To the extent necessary to protect navigation, and to that extent only, is the right and power of consent exercised with authority. It is useless to argue with a legislator who says that, having the right of prohibition except

¹ Report National Waterways Commission, S. Doc. 469, 62d Cong., 2d sess., p. 54.

upon consent, the Congress has, therefore, not only the power, but the constitutional right, arbitrarily to give or to withhold the consent, and that having such arbitrary power, it has not only the power but also the right to attach any condition, of whatever nature or for whatever purpose it may choose, to the granting of the consent.

I am here discussing the question of a wise constitutional policy, assuming the exercise by the Congress only of rights and powers authorized by the Constitution, and assuming that every member of the Congress has regard for his oath to support that Constitution. It is not an answer, therefore, to any of the propositions which are here suggested, to ask whether and how, under the Constitution, a private riparian owner could prevent drastic, arbitrary, and unconstitutional legislation, either by mandamus against the Congress or against any of the executive departments whose action should exceed the rights expressly limited by the Constitution. It is upon this asserted unlimited power of the Congress, arbitrarily to withhold consent to the building of water-power dams upon navigable streams, as distinguished from its really authorized, constitutional, and limited right, that has been based the attempt to impose drastic and confiscatory burdens upon the riparian in connection with legislation providing for private water-power dams. Among such attempted unconstitutional burdens are those of tolls or charges from the proceeds of the water power for revenue purposes.

Charges for revenue to be paid out of the proceeds of the water power, either as already provided in Federal statutes or as proposed to be extended, should be avoided, not only on the ground of lack of constitutional authority to impose and enforce such charges, but also because the exaction of such tribute is against a wise policy. Under the principles excluding any proprietary right in the Federal Government, already shown, and fixing the proprietary interest in the riparian owner, it follows that the levy of tolls by the Federal Government is unjustified; for after the private riparian owner has been burdened with the expense of locks and of their operation, and has conformed his works, at his own expense, to present and future navigation purposes, and is obliged to operate them subject to the uses for navigation, then all the remaining beneficial uses belong to him. If the property law peculiar to any particular State limits the common-law riparian right so as to give to the public any right of advantage further than it would have under the strictly common-law rule, then such advantage, so far as the water power itself is concerned, belongs to, and is subject to the control only of, the State government. The exaction of tolls or charges, therefore, beyond the limits indicated, is an encroachment upon the rights of the States or of the individual riparian, or of both. The legal limitation of the power to levy charges is that governing the imposition of a license fee usually arising from the power of regulation, which, in this case, is a power, not of exaction of revenue or of prohibition, but one purely of regulation for a specified purpose. Such fee may be based upon the actual expense occasioned to the government in supervising and in carrying out the requirements for the issuance of the license.¹

¹ It may include not only the expense of issuing the license, "but also the additional labor of officers and other expenses imposed by the business for which the license is issued, but nothing beyond this. * * * The amount of the license fee or charge is to be considered in determining whether the exaction is not really one of revenue or prohibition instead of regulation." *City of Ottumwa v. Zekind*, 95 Iowa, 622; *Savage v. Jones*, 225 U. S., 501. See also *State ex. rel. Wausau Ry. Co. v. Bancroft*, 148 W. L., 124, declaring as confiscatory tolls by the State under the guise of regulation.

But, besides being without authority, the exaction of such tolls operates as a discouragement to development. This results, not merely from the fact itself of toll charges, but also from the manner in which they are imposed. The fact of their imposition and their amount are left uncertain and changeable at any time at the will of him who happens to be the head of the War Department. The manufacture and distribution of energy from water power are mostly intrastate, and the matter of regulation of rates is, therefore, primarily a matter of State regulation. For this purpose most States have commissions, affording means of proper adjudication, consistent with local conditions. Moreover, any charge for revenue to the Federal Government means increased expense of operation which must be taken into consideration by any tribunal fixing rates to the consumer. Federal tools, even though used for the general improvement of navigation, impose an unequal burden upon comparatively isolated localities for a general public benefit; and at the same time that they thus diminish the advantage to the locality in which the water power is situated, they encroach upon the right of control by the local State authorities.

This dispute, which is now waging in the Congress, is important here because the inconsistent and uncertain provisions heretofore made and the failure to adopt a definite, business-like policy have been and are antagonistic to the cause of conservation, which, in the case of water powers, we have seen, is to promote rapid and wide utilization. Projected developments have been abandoned or postponed, because investors halt before the burdens, the uncertainties and unnecessary hazards placed upon such investments. Besides their adaptability to the manufacture of electrical energy for general distribution, water powers are peculiarly fitted for the manufacture of certain products. In some instances large industries have been turned from this country to others, for the very reason that the attitude of the Government toward private water-power development made investments here insecure.¹ There has been for a long time at Washington a sort of deadlock between those representing the two sides of this question. The majority in the Congress oppose the levy of tolls by the Federal Government as repugnant to constitutional law and as against a wise policy, while the executive departments of Government generally have been in favor of such tolls.² The result has been the retardation of water-power development upon navigable streams.

The usual arguments against "big business" and against monopolies have been urged in favor, not only of general Federal control, but also of the exaction of tolls. The pseudo-conservationist assumes

¹ "Water Power in the United States," by M. O. Leighton, Chief Hydrographer of the Geological Survey in "Annals" of the American Academy of Political and Social Science, May, 1909; Report by Senator Bankhead, from Committee on Commerce accompanying S. 7343, the bill for dam across Coosa River, 62d Cong., 2d sess.

² See report of subcommittee on dams and water powers to Committee on Interstate and Foreign Commerce, House of Representatives, 60th Cong., 2d sess., Feb. 25, 1909, showing President's veto of Rainy River dam bill, House committee report on same, President's veto of James River dam bill, and other documents; report Senate Committee on Commerce on James River dam bill, being report No. 695, 60th Cong., 1st sess.; report of Senate Committee on Commerce on Senate bill 7343, the Coosa River dam bill, 62d Cong., 2d sess.; President's veto message of Coosa River dam bill, Senate Doc. 949, 62d Cong., 2d sess.; majority and minority reports of Senate Commerce Committee, 62d Cong., 3d sess., on Senate bill 8033, the Connecticut River bill; also debates in the United States Senate, Congressional Record, February, 1913, on Connecticut River bill. The President, Secretary of War, and Secretary of the Interior favored the inclusion of toll charges in the Connecticut River bill; but they were eliminated from the bill by vote of 53 to 29, and the bill passed the Senate as so amended by a vote of 74 to 12. See Congressional Record of Feb. 17, 1913.

that water power is a comparatively inexpensive source of energy and that, therefore, investors in water-power developments can compete with steam power, although subject to the levying of large and uncertain tributes, not only out of their original investment, but also out of their income. As a matter of fact, the development of a hydro-electric plant requires a capital investment per horsepower produced so great that, as against the original investment in a steam plant together with the cost of fuel, it is only in exceptional cases where, even without extraordinary burdens, the water-power plant is the more economical. Moreover, the hazards of the investment are greater in the case of water powers, and the most economical development of water power requires an auxiliary steam plant to supplement the water power at lower stages of flow. Water-power development requires big capital and means big business. As to its regulation and control, including the matter of rates, it is subject to the same laws and tribunals as other similar public-service enterprises. The exaction of tolls has no antimonopoly effect, except as it prevents investments altogether. On the other hand, it creates an extra tax or charge upon the consumer, to the extent that it increases the cost of operation.

The appropriation by the Government of a portion of the proceeds belonging to the riparian out of the beneficial use of his water power has, indeed, a tendency to create and to promote water-power monopoly. Since the dispute in the Congress over these questions was precipitated about six years ago, water-power development upon navigable streams in this country, except those constructed under prior acts of the Congress, has been comparatively at a standstill. Water-power development has since been confined mostly to the small streams where congressional consent was not required. Millions of capital have been ready and are still ready and anxious for investment, if fair and safe provisions may be obtained. In the meantime enterprises under previous legislation, forever free from special burdens, are monopolizing the water-power markets, in which the supply is thus artificially limited. Thus by discouraging development of water power commercially feasible, as well as by exacting charges which new enterprises might prefer to bear rather than to be deprived of the necessary legislative consent, a monopolistic advantage is given to those who have already developed, as against those who propose future developments. In the meantime the large undeveloped water powers of the country are going to waste and conservation, in its own name, is defeating itself.

FEDERAL OBSTACLES TO CONSERVATION.

From the foregoing it is apparent that the affirmative policy of the Congress, so far as formulated, in respect to water powers, is already too much one of reservation, or of hindrance to development. It is antagonistic to the utilization of this inexhaustible source of energy, and therefore an obstacle to conservation. The failure on the part of the Congress to establish a definite, consistent, and business-like policy is an additional obstacle. The difficulties are further increased by the attitude of those who insist, under the guise of conserving natural resources, upon using the water powers as a means of revenue to the Federal Government, instead of regarding

them as an economical and practical means of promoting the industrial development of the localities in which they are situated. Indeed, in some instances where the question of Federal revenue is not involved, there seems to be a disposition to assert the right of control merely for the sake of emphasizing the power of the Federal Government as against the rights of the respective States and of their citizens.

In one instance even treaty provisions are disregarded. The United States and Great Britain, in 1910, ratified a treaty between the two nations by which the diversions for power at Niagara Falls were expressly limited to specific quantities for each side of the international boundary.¹ The amounts of diversion allowed were fixed from the computations of the United States engineers and other experts as being neither a hindrance to navigation nor to the scenic beauty of the Falls. Pending the negotiations for the treaty, and as a tentative arrangement, a statute was passed limiting the amounts of diversion upon this side of the river to amounts less than those afterwards fixed by the treaty, and restricting importation to this side of power from the Canadian side.² Since the ratification of the treaty several bills have been presented to carry out its object and terms, but for successive sessions such bills have been opposed by those assuming to act in the interests of conservation, so that the restrictions and limitations existing before the treaty have been continued in force.

The treaty expressly limited the diversion upon the American side to less than 36 per cent of the total amount of diversion allowed upon both sides, the total amount being fixed below the amount which would affect either navigation or scenic beauty or any public interest. That the diversions could not affect navigation in the slightest degree is apparent and is conceded by all engineers. The only basis for Federal interference is therefore lacking. However, under an imaginary constitutional power in the Congress to protect scenic beauty, the Burton Act of 1906 was passed pending the treaty negotiations. A dozen years before, in accordance with their property rights, arising from riparian holdings and legislative grants from the State of New York, two companies had invested millions of dollars in the construction of plants upon the American side, requiring for their operation at full capacity diversions from the falls of amounts of water not exceeding the amounts afterwards fixed by the treaty for the American side. The conservation of scenic beauty was thus assured by the treaty provisions and at the same time interference with navigation was prevented, for the treaty amounts were based upon careful scientific investigation. It is manifest that, especially after the treaty, the Congress had no constitutional right to limit directly or indirectly, diversions upon either side—at least, not to any amounts below those fixed by the treaty. Diversions beyond the treaty limits were by the treaty discouraged and, in fact, prevented. The treaty contemplated unrestricted rights of importation.

None of the American investors have ever asked Congress for permission to divert a single cubic foot of water beyond the limits expressly fixed by the treaty, but have confined their requests to have the statutory authority for permits extended to the limits fixed

¹ Treaty between United States and Great Britain as to boundary waters between United States and Canada, proclaimed May 13, 1910, Treaty Series 548.

² Act of June 29, 1906, and joint resolution of Mar. 3, 1909, being House joint resolution No. 263.

by the treaty. At the same time, Canadian investors have asked permission to import to this side the electrical energy manufactured from the water power that they develop within the limits fixed by the treaty. Nevertheless, these requests, which are consistent with and promotive of the true policy of conservation, whether it be viewed as a conservation of power or of scenic beauty, have been vigorously opposed by certain self-styled "defenders" of Niagara, who misrepresent to the public the nature of the requests made by the American investors at Niagara and distort those reasonable requests into demands for unlimited permits for diversion. Those investors are heralded as assailants of the beautiful Niagara. Their modest prayer for an observation of the limited treaty provisions is heralded as a wholesale "attack" which threatens the very "life of the falls," and as an attempt to "cut the throat of beauty for gold."¹ It has been demonstrated that whatever unwatering of the crest of the falls has occurred in past years has been due entirely to the natural gradual recession of the apex of the Horseshoe Falls and is not due at all to any water-power diversions. In fact, the extra amount of diversion which is asked and which is allowed by the treaty, upon the American side, over the amounts now allowed by continuing in force the original statute enacted as a *modus vivendi* pending the negotiations of the treaty, is only 4,400 cubic feet a second, or less than 8 per cent of the total amount fixed by the treaty and less than 2 per cent of the total ordinary flow over the falls, which amount has been demonstrated to be utterly inappreciable so far as it could possibly affect either scenic beauty or any public interest.²

The result has been the prevention of further development of industries on this side of the river, where there is a demand for immediate use of all the electrical energy that could be produced on the American side and of all that could be imported from the Canadian side. At the same time there is a forced and steadily increasing industrial development upon the Canadian side, where the use of the falls for power is limited only by the terms of the treaty. As fast as the electrical energy manufactured from the water power allowed to the Canadian side is taken up there, the amount which can ever be imported to this country is permanently decreased. The extra amount allowed by the treaty for use upon this side over the limit retained by Federal legislation is still unutilized. Thus, in the name of conservation, industrial growth and all other advantages of water-power development and use are promoted by the United States Congress upon the Canadian side at the same time that they are retarded upon the American side. A more unreasonable and suicidal thwarting of the true policy of conservation could not be devised.

¹ See "The Defender of Niagara" in "Cosmopolitan" Magazine, April, 1913. For similar, prejudiced, and grossly erroneous views of the Niagara question, see also "An Expensive Experiment," by R. P. Bolton published 1913, The Baker & Taylor Co., New York, and the "Outlook," Mar. 29, 1913.

² See Report of Hearings before House Committee on Foreign Affairs, Jan. 16, 1912, and following days, on House bills, "to give effect to the fifth article of treaty between the United States and Great Britain, signed Jan. 11, 1909;" also report of Hearings before House Committee on Rivers and Harbors, Jan., 1911, on the same subject; also Report of Hearings before House Committee on Rivers and Harbors, Apr., 1906, on the Burton Act; also Report on "Water Powers of Canada," published by Commission of Conservation of Canada, Sept., 1911; also see Reports No. 1488, House Committee on Foreign Affairs, Feb. 8 and Feb. 25, 1913, 62d Cong., 3d sess., majority and minority reports on H. R. 28674.

CONSERVATION UNDER STATE LEGISLATION.

Some well-meaning friends of conservation seem to be obsessed with the idea that ownership and control by the Government, Federal or State, of water powers must be extended to the utmost limits and that constitutional prohibitions may be justifiably disregarded or evaded in so far as they stand in the way of carrying out this idea. It is the blind adherence to this unlawful and unwise policy which has the greatest effect in maintaining a barrier to what is really the conservation of water powers, because it discourages and obstructs proper and constitutional legislation for the promotion of water-power development. That this is true with respect to Federal legislation has been shown. But the same fallacy prevails among many conservationists with respect to State legislation. The theory is too prevalent that because the Federal Supreme Court has fixed the State law as the law of property rights with regard to water powers therefore the power and authority of the State over water powers are unlimited. This idea disregards the fundamental proposition of constitutional law that where vested property rights are established by the common law of a State then such rights can not be diminished or destroyed except by due process of law, and that therefore they can not be taken away by any fiat of the voters, whether in the form of a State statute or in the form of an amendment to the State constitution. The law of the State by which property rights are determined is the State common law as adjudicated by the decisions of the highest court of the State.¹ The rule of property right so fixed is binding upon all courts, including the Federal courts, so far as concerns property rights within the State in question. The fact that in some States a more extended rule of ownership and control by the State has been established than in other States as the law of property rights, or that the rule is radically different in different States, does not justify the conclusion that any State may arbitrarily change the rule of property rights from that which has once been established. The fact that one rule in one State has been established with a better regard for public policy than the rule established in another State, or that one is more promotive of general conservation than another, does not permit an arbitrary change of property law in a State where the rule may be less favorable to general public advantage. As to each State, we have to take the rule of property rights as we there find it, and, having regard for that rule, work out, as far as possible, consistently with the law, the objects of conservation. The too prevalent disregard of these distinctions, and persistent attempts, regardless of constitutional limitations, to thrust aside these obstacles presented by the law, have tended to discredit and to retard the cause of conservation.

Attempt at conservation by constitutional fiat is illustrated by the adoption in 1889, in the State of North Dakota, of a constitutional amendment providing that "all flowing streams and natural watercourses shall forever remain the property of the State for mining, irrigation, and manufacturing purposes."² The decisions

¹ *St. Anthony Falls Water Power Co. v. Water Commissioners*, 168 U. S., 358, 365, 371, and cases cited in the opinion; *Fallbrook Irrigation District v. Bradley*, 164 U. S., 180; *Kansas v. Colorado*, 206 U. S., 94; *United States v. Rio Grande Co.*, 174 U. S., 702.

² *N. Dak. Const.*, Art. XVII, sec. 210.

of the State supreme court had, as against subsequent appropriation, already established the law of riparian rights as the property law of that State.¹ In a later case this constitutional provision was invoked as abolishing that law of riparian rights; but the State supreme court held that this section of the constitution would itself be unconstitutional if it appeared that the property rights, as fixed by the previous decisions of the State court, were thereby to be invaded.² Similar attempts, all of them unsuccessful, have been made to change a State common law of riparian rights to one of State control and ownership of water powers. Such was the attempt made in the Minnesota Legislature of 1911 when the Wisconsin water-power statute of that year was urged for passage. Although it passed the house, it was stopped in the senate upon the opinion of the attorney general that it was confiscatory and unconstitutional.

The same year, however, a statute was passed in Wisconsin attempting to change the law of riparian rights established in that State to the law of State ownership and control of water powers.³ This legislation proceeded on the theory, declared in its preamble, that all the beneficial use and natural energy of the water of navigable streams in that State belong to the State in trust for all the people and are subject to the control of the State for the public good. Beside other drastic provisions, it attempted to levy upon the private owner in behalf of the State tolls at varying rates per horsepower. The supreme court of the State unanimously declared the statute in conflict with the established property law, and confiscatory and unconstitutional.⁴ The further significance of this statute as an alleged conservation measure is shown by the fact that the passage of such a statute was made the chief feature of the political campaign throughout the State prior to the election of the legislature and that it was urged to the voters of the State and afterwards to the legislature as a progressive conservation measure. However, from the time the agitation started until the decision of the supreme court, invalidating the statute, was filed, water-power development in the State of Wisconsin was stopped. Indeed, despite the action of the State supreme court, propositions for water-power development in the State are still regarded by investors as unsafe. They prefer investments in localities where there has been a different demonstration as to the prevailing idea of what constitutes conservation.

Conservation of water powers, whether through national or State legislation, will never be realized so long as the fallacy persists that the interests of conservation and the interests of water-power owners are at war with each other. This fallacy has been the cause of most of the erroneous and futile attempts by legislatures to solve, with respect of water powers, the problem of their conservation. This fallacy itself has sprung from a failure on the part of both classes of interests to appreciate the underlying principles involved. Advocacy of hasty and extreme measures, inimical to the property rights of private owners and rendering hazardous the necessary investments of capital, has tended to create a hostile attitude on the part of private interests toward the carrying out of a conservation

¹ *Sturt v. Beck*, 6 Dak., 71; 133 U. S., 541.

² *Bigelow v. Draper*, 6 N. Dak., 152.

³ W. S. Laws, 1911, ch. 652.

⁴ *State ex rel. Wisconsin v. Bancroft*, 148 W. S., 124; 134 N. W., 330.

policy. This hostility, in its turn, incites a further spirit of antagonism on the part of the forces of conservation. The questions of conservation become confounded with questions concerning monopoly, competition, and the relations between the producer and the consumer. But those representing the two classes of interests involved, those representing the public and those representing investors, are now realizing, more than ever before, the fact that real advantage to any locality or to the public at large lies upon the same lines as real advantage to the holders of investments in water-power development. Both should recognize the feasibility of getting together on some basis which will, at the same time that it admits of adequate protection to the public, also provide an attractive field for investment. Public-utility companies should become convinced that a proper and fair restriction and regulation in the operation of their properties are reasonable and necessary, and eventually promotive of their own best interests. They should be convinced, as they are more and more, that reasonable concessions, even if beyond the limit of their exact legal obligations, assure to them a readiness on the part of legislative bodies to yield also something in return, including a more certain tenure and safer and more comprehensive protection, through legislation, of the beneficial use belonging to them as proprietors.¹

Both the public and the private interests involved require water-power utilization and further opportunities and facilities for utilization. The fact should be recognized in legislatures, national and State, that the questions of the control of rates, of proper regulation and of prevention of monopoly, can be adequately solved without being confused with legislation enacted for the purpose of encouraging and promoting water-power development. It should be recognized that resort need not be had to specious pretexts to strain or evade the law governing the rights of States or of individuals, and that the refraining from undue and illegal advantage and privilege, by either the Government or the individual, is not inconsistent with a proper conservation policy.

Adequate water-power development and its economical operation mean, to some extent at least, combination and consolidation. They involve large capital investments. But they do not, for that reason, mean, as is too often assumed, either a menace to the general public interest or a menace to the consumer himself. It is through private ownership and control of water powers that the objects of conservation can best be accomplished. Investment of private capital in their development should be encouraged. The policy of a paternalistic or socialistic control by the Government, in order to extract directly from the proceeds of water-power developments revenues or charges for the benefit of the people as a whole, is antagonistic to the purposes of conservation. Such a policy is founded upon an unreasonable misapprehension of the significance of private ownership and of large investments. Mr. Justice Holmes recently said:²

We are apt to think of ownership as a terminus, not as a gateway; and not to realize that, except the tax levied for personal consumption, large ownership means investment, and investment means the direction of labor toward the production of the

¹ See "The right use of the Nation's water power," by M. O. Leighton, Chief Hydrographer of the United States Geological Survey, *Leslie's Weekly*, Feb. 20, 1913.

² Speech of Mr. Justice Holmes at dinner of the Harvard Law Association of New York, Feb. 15, 1913, S. Doc. No. 1106, 62d Cong., 3d sess.

greatest returns, returns that so far as they are great show by that very fact that they are consumed by the many, not alone by the few. If I might ride a hobby for an instant, I should say we need to think things instead of words; to drop ownership, money, etc., and to think of the stream of products, of wheat and cloth and railway travel. When we do, it is obvious that the many consume them; that they now as truly have substantially all there is as if the title were in the United States; that the great body of property is socially administered now; and that the function of private ownership is to divine in advance the equilibrium of social desires; which socialism equally would have to divine, but which under the delusion of self-seeking is more poignantly and shrewdly foreseen.

The policy of conservation, as applied to water powers, should be recognized as the policy of promoting, as rapidly and as extensively as possible, within the law, the utilization of the perpetual and inexhaustible resources afforded by every water power in this country, the development of which is, or can be made, economically feasible.

ROME G. BROWN.

MINNEAPOLIS, MINN.



IMPROVEMENT OF NAVIGABLE RIVERS

AN ADDRESS

DELIVERED BEFORE THE NATIONAL RIVERS AND HARBORS
CONGRESS AT THE TENTH ANNUAL CONVENTION
HELD AT WASHINGTON, D. C.
DECEMBER 3-5, 1913

By

ROME G. BROWN
OF MINNEAPOLIS, MINN.



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LEGISLATIVE OBSTACLES TO THE IMPROVEMENT OF NAVIGABLE RIVERS.

NAVIGATION PROBLEMS THE WORK OF THIS CONGRESS.

It is assumed that the work of this congress is primarily the study of problems relating to navigation. Therefore it must be your purpose to discuss and, as far as possible, to solve in a preliminary way the many and complex practical questions of policy, of expediency, of engineering, and of law arising from the varied present and prospective problems connected with navigation improvement in this country. It must also be a part of your duty to eliminate the visionary and impracticable from those propositions and measures that are feasible from the viewpoint of wise policy, commercial practicability, and that give proper regard to the legal and constitutional rights of the Federal Government, of the sovereign power of the States, and of the property rights of individuals. This congress, let us assume, is never to become the mere advocate of one project nor of the policy of any partisan faction. It should be maintained as a means and an instrument of constructive progress, an incentive and aid to definite and concrete accomplishment of results, to the end that your well-considered conclusions may be presented to those in authority, legislative and executive, and that thereby specific and permanent results in the form of legislative enactment may be more wisely and more promptly attained.

Though without governmental authority, and therefore in a sense purely voluntary, your deliberations, conclusions, and recommendations will have weight and effect to the extent, and only to the extent, that they are the outcome of open and fair discussion by all parties and interests, carried on as in a judicial forum, uncontrolled either from the outside or from the inside by any particular cult, propaganda, or partisan influence of any kind.

You will demonstrate that conservation is not a mere fetich of visionaries, whose blind worship is performed only through stereotyped formulas of impracticable doctrines and policies, sounded, though they may be, in enticing phrases to catch the uninstructed popular ear; that it is not a cult of negation or obstruction, much less a mere propaganda of persistence in discredited policies against which the Nation as a whole and those now in authority, both inside and outside the legislative departments at Washington, have revolted.

Let me state at the outset that in the solution of the navigation problems of which I shall speak nothing will be accomplished by the advocacy of either extreme view of Federal or of State right of control. I recognize the fact established by nature and by experience, and I assume this congress recognizes the same fact, that the primary use of our natural water highways is for navigation. And let me

say further that I recognize, as I assume that this congress recognizes, the principle, established by the authority of all our courts, Federal and State, that the control by the Federal Government of our navigable streams is paramount to protect them from interference with their use for navigation purposes. This is a right of control which, under the law of the land, has been expressly reserved to the Federal Government, and as such it is paramount to that of the States. The solution of these navigation problems can be made only under a policy which has proper regard for both these two classes of jurisdictions and which, according to constitutional law, allows to each its proper sphere, force, and effect.

It remains for you to recognize and to declare the fact, that the cause of conservation can be worked out only by a fair, full, and proper recognition of the well-established constitutional paramount rights of control, belonging to the Federal Government in the interests of the Nation as a whole for the protection of navigation, of all the highway streams of the entire country, and by a recognition, at the same time, always subject to that defined Federal power of control, of the right of control, established as a basic principle of our system of Government, by the respective States of their internal affairs, of the lands, resources, and property rights within their respective confines, including the proper regulation of the business relations of their citizens, their property rights, and its incidents, contract rights, rights and obligations between producer and consumer, and the management and control of all intrastate transactions. A proper recognition and reconciliation of these sometimes apparently conflicting jurisdictions presents the only solution which will offer constructive progress in the conservation of our natural water resources. The problem of the conservation of these resources is a practical, workable problem, susceptible of feasible constructive solution, when it is made plain that conservation, as applied to the use of the waters of the streams of this country, navigable and unnavigable, both for navigation and water-power development, signifies not reservation from, nor restriction upon, use, but the most immediate and extensive use possible, and that any restriction or postponement of their economical utilization is violative of the very essence of conservation.¹

THE THREE CLASSES OF NAVIGATION PROBLEMS.

The problems of navigation improvement in this country are, generally speaking, of three classes: (1) Those involving the improvement of the naturally slack water navigation facilities afforded by natural waterways; (2) the construction of artificial canals and waterways across or between natural watersheds; and (3) the improvement of navigation by dams at falls and rapids upon the natural river highways where navigability in fact is not afforded by nature and can be obtained only by dams with locks and other controlling devices.

¹ Proceedings of the fifth annual convention of Mr. Pinchot's conservation congress held at Washington D. C., Nov. 18-20, 1913, where the fair advocacy of constructive policies and measures was prevented by an organized closure upon the expression of any proposition disapproved by Mr. Pinchot. His minority report, repudiated by the water-power committee and turned down by the committee on resolutions, was at the last moment forced to adoption on the floor of the congress after many delegates had left, and the entire Arkansas delegation had withdrawn in protest against the refusal to grant a hearing; also, "Conservation of natural resources," by F. N. Powellson, printed as S. Doc. No. 248, 63d Cong., 1st sess.; also, the "Conservation of water powers," by Rome G. Brown, reprinted from the Harvard Law Review of May, 1913, as S. Doc. No. 14, 63d Cong., 1st sess.

Of these the first may be said to involve problems of the past, because for the most part they have been solved by actual construction or by feasible plans for the present and future covering all engineering and financing problems. The second class involves problems, now tentatively proposed, but which are, comparatively speaking, for development in the future. These include all varieties of plans for artificial canal ways, from those practical ones for connecting two inland lakes or streams, for paralleling the Atlantic coast with a deep-draft canal, or for cutting of a \$50,000,000 canal across the upper portion of the Florida Peninsula to the visionary scheme recently proposed to make a modern artificial Venice of practically the entire State of Minnesota.

THE PROBLEM OF HYDROELECTRIC NAVIGATION DAMS BUILT BY PRIVATE CAPITAL REQUIRES IMMEDIATE SOLUTION.

It is the third class, however, which involves the practical, present, and pressing problems necessary to be solved before further substantial progress shall be made in the way of navigation improvement.

For this third class there are afforded by nature at every rapid and fall the elements necessary to work out a solution of all the problems involved, and with comparatively little or no expense to the Government itself. Nature presents at such points the only possible means of connection between the upper and lower portions of a natural water highway, and also supplies the undeveloped energy, ever present at the place where needed, to lift to any height whatever tonnage of freight may seek entrance or exit between the interior and the great ocean seaports.

The Federal Government has rightly spoken its assertion of navigation control when the Congress prohibited construction of private water-power dams in navigable streams without Federal consent. The development of electric science has made commercially feasible in many instances the development by the riparian owner of his water-power rights in navigable streams. In most instances development for navigation alone, whether by the Government or by private enterprise, is impossible as a financial problem on account of the prohibitive cost. Development of the water power, however, by the private investor is such a hazardous and doubtful undertaking that, especially when there is added the burden of the navigation facilities, to say nothing of further burdens proposed, the present uncertainties make the situation prohibitive. These problems of this third class are to be solved only upon the basis of assistance and cooperation of private capital on the one hand and of the Government on the other hand, with concessions sufficiently liberal to attract private investment. They are to be solved, in other words, by a proper combination and cooperation between the public and the private interest—that is, by the construction of hydroelectric plants by private capital with the facilities necessary to promote and preserve navigation. The instance of the Keokuk Dam presents the method, and the only method, by which this class of navigation problems can be solved.¹

¹ Acts of Congress of Feb. 8, 1901, vol. 31, p. 764; Feb. 26, 1904, vol. 33, p. 56; Feb. 9, 1905, vol. 33, p. 712. Rept. No. 1050, by Mr. Adamson, from the Committee on Interstate and Foreign Commerce, 62d Cong., 2d sess., accompanying H. R. 26922.

PRIVATE CAPITAL NECESSARY TO FINANCE THESE NAVIGATION IMPROVEMENTS.

The improvement of navigation at any rapid or fall involves the utilization of private lands and riparian rights, which generally are of great value, not only intrinsically for agriculture or other general purposes, but also on account of their special value as power sites. It also involves expensive construction and maintenance, including operation and financing, based not only upon initial expense, but the extreme hazards of the enterprise arising from the varied and uncertain physical conditions to which the structures are subject and the necessity of building up within the feasible limits of transmission a demand and market for the power produced. Temporary expedients, while for the time less expensive, are in the end comparatively a waste of money. The structures should be of the latest and highest class known to the science of engineering, sufficient or readily adaptable to all present and future needs. The history of the financing of such enterprises has been, and always will be, one of waste, so long as the only resources for improvement are understood to be the National Treasury. The most conspicuous features of development by the Government alone are the jealousies and rivalries of localities to get the most in the shape of appropriations, irrespective of any financial problem, of commercial feasibility, of practical necessity, or of the ultimate return to any locality, or to any interest, or to the people as a whole, from the actual investment involved. The candidate for Congress goes before his constituents upon the platform that he has obtained from the Federal Treasury appropriations for his particular locality greater than those of his predecessor, or greater than could be expected from his inexperienced contestant. Up in Minnesota there was recently completed actual construction of the upper of two once proposed navigation dams between the Twin Cities, and yet to-day, under the authority of a later Federal statute, the lower one of the two dams is under construction at double or more than the originally proposed height, by which it is planned to drown out entirely the present completed upper dam. As a result, the entire cost of the latter, a million dollars and more, will be charged as a purely loss account in the bookkeeping of the Government's finances.

Similar instances of waste from all parts of the country are shown by the records at the National Capital. The opportunities and practical demands for improvement of navigation which involve feasible construction and operation are so varied and so immediately pressing—improvements of the class requiring dams with locks at falls and rapids—that their financing by governmental construction alone would increase the national debt to proportions impossible to contemplate. Governmental resources are not adequate to supply investments even where some pecuniary return through navigation toll charges and revenues from the leasing of incidental water power would be assured. It is only in exceptional instances, comparatively few, that the Congress could be induced to make the necessary improvement, even with the assurance of an adequate return as from a purely financial enterprise. On the other hand, millions of private capital are ready to make in all parts of the country navigation improvements as a concession to the Federal Government if only

private investors are not arbitrarily forced to yield up to the Government and for its benefit an undue proportion of their investment and of their revenues, in addition to accomplishing the navigation objects for which the Government has specific supervision, if the enterprise as a whole can be made commercially feasible, and if conditions and restrictions and uncertainty with reference to conditions and restrictions are not so unreasonably imposed as to create an unsurmountable hazard and menace to financial success.

**EXAMPLES UNDER THE FORMER POLICY OF COOPERATION BETWEEN
THE GOVERNMENT AND PRIVATE CAPITAL.**

Take, for example, the Des Moines Rapids upon the Mississippi River. Prior to June 30, 1912, the United States Government spent at this point for inadequate navigation facilities for boats of small draft \$1,458,103. Its entire expenditures for strictly navigation improvements upon the Mississippi River between the mouth of the Missouri and St. Paul prior to June 30, 1912, amounted to \$12,184,987. Adequate improvements at Government expense for the navigation past the Des Moines Rapids had been repeatedly refused under recommendation of the Government's engineers, not upon the ground of lack of desirability or necessity, but because of the expense necessarily involved.

Since the year 1910, however, acting under authority of an act of 1905, the Mississippi River Power Co. has expended as a private investment \$21,000,000 at the Des Moines Rapids and has constructed and now operates at Keokuk, free of tolls to the public and free from expense to the Government, a navigation dam with locks of deep draft; a navigation structure which has not a rival in the whole world. All that the United States Government has done to bring about this wonderful accomplishment has been the giving of the consent by the Congress that private investors may go upon the bed of the stream and expend in three years double the amount of money that the United States Government has ever been able to expend upon the entire Mississippi River for navigation purposes above St. Louis, and to say by the same act that the Government would accept the tribute and gratuity from the private investor involved in the expense of initial construction and perpetual maintenance and operation of perfect navigation facilities at this point. But these are only a small and incidental advantage which this policy of the Government, adopted by Congress and acquiesced in by the executive departments up to and including the year 1905, brought to the people of the Mississippi Valley and indirectly to the people of the whole Nation. The potential, undeveloped energy, equivalent to the annual consumption of 5,000,000 tons of coal—the energy which has been heretofore for centuries constantly present and wasting—is now conducted to three different States to operate existing industries and to build up others. No more significant example of the practical application of the true principles of conservation could be cited than this, where the natural navigation resources of the country have been conserved by prevention from waste; the water-power resources of the country have been prevented from waste; and at the same time unnecessary and wasteful using up of coal energy has been diminished. A double and triple

economy has been brought about. A constructive, feasible, progressive policy of conservation has been followed, with resulting advantage not only to the Government itself but to the entire people whose interests it is supposed to represent.

The total money expended by the United States Government on the Tennessee River and its tributaries for navigation improvement from the first appropriation in 1827 down to date has been \$11,676,531, and yet there remained unimproved long stretches of the river broken by falls and rapids at points where navigation development by governmental enterprise was deemed impracticable on account of the cost. Yet the other day the construction was completed and there was opened for operation a complete modern hydroelectric navigation dam, built under an act of 1905 by private enterprise at an expenditure of \$9,000,000, of which sum two-thirds may be fairly said to be applied to the governmental facilities of navigation. The new dam at Hales Bar, and the industrial development arising from the water power assures untold advantage, present and prospective, to the people of that locality. It means industrial growth, together with the double and triple economy of the natural resources of energy.

The situation in Alabama speaks loud against the present policy of stagnation in improvement. There is a State with its great natural highways only crudely developed. The Coosa-Alabama River stretches from the Mobile Bay, a natural highway for the commerce of the entire State and that of Georgia, to its upper waters in Georgia, naturally navigable through all its parts, except over a distance of about 100 miles through which it drops with a 300-foot fall to the lower Gulf level at Wetumpka, Ala. Various plans have been proposed to connect with navigation facilities these two navigable portions of the river. Improvement by the Government has been held impossible on account of the prohibitive cost, and a report from the United States engineering department, only recently made, has advised the impracticability of improvement at Government expense. In view of the other drafts upon its Treasury for navigation improvement, the Federal Government since the year 1876 has been able to expend upon the Coosa River for navigation improvement only about \$1,500,000. Theory and experience have demonstrated that navigation past the falls above Wetumpka can only be accomplished through the aid of development by private capital. Under an act of 1907, just before the present obstructive policy began its sway, a private enterprise is building a combined water power and navigation dam at Lock No. 12, one of the several improvements necessary to navigate the falls. It is completing a hydroelectric and navigation dam without expense to the Government at a cost exceeding \$2,300,000, an amount far in excess of the entire sum heretofore spent by the Government upon the entire river.

INSTANCES OF OBSTRUCTED ENTERPRISES UNDER THE POLICY EXISTING SINCE ABOUT 1907.

Under the dam acts prior to 1899 the Federal right of control of highway streams for navigation purposes was protected by the provision that private structures in the beds of such streams should be built under plans approved by the War Department in such a manner as not to interfere with their use for navigation purposes and with

the power of removal by the Federal Government whenever they should become an instrument of such interference. By the act of 1899 such structures were prohibited until Congress by an express enactment should have given its consent; and by the act of 1906 there was added the provision that in approving the plans the Chief of Engineers and the Secretary of War might impose such conditions as they deemed necessary to protect present and future interests of navigation, including the construction by private owners of locks and the furnishing of power to operate the same.¹

Under the policy existing prior to 1906 the cooperation between the Federal Government and the private investor was provided with reasonable consistency, with proper regard for the interests of the public upon the one hand and for the protection of the private investor upon the other hand. It was and always has been for the Congress to say to what extent the Federal Government should exercise its power of supervisory control in the interest of navigation. So far as the voice of Congress, which is the only constitutional power in this matter, had been permitted to be enforced, private capital had been ready to cooperate with the Government in these much-needed improvements. Following the year 1906, however, there appeared a policy of an Executive who assumed legislative functions, and who, disregarding the law and the will of Congress, arbitrarily obstructed the enforcement of laws promotive of the development both of industry and of navigation. President Roosevelt vetoed the bills for hydroelectric navigation improvement upon the Rainy River and upon the James River, and announced a policy, violative of constitutional provisions, of exacting substantial toll and tribute from private enterprises as a condition to the necessary congressional permit for the construction of a hydroelectric plant in a navigable stream. From that time on he and his successors in this obstructive policy, which ignores the property rights of States and of individuals and violates the rights reserved to the Federal Government by the Constitution, have stood as obstructionists to the carrying out of the present needs of improvement of our navigable streams for navigation and water-power uses.² For something over six years there has been practically no hydroelectric development on the navigable streams of this country under any Federal consent granted within that time; and this, too, although within the same period the science of economic hydroelectric development has progressed more than during all the years preceding. Millions of capital, representing various and competing interests, have been and are still ready, upon reasonable and businesslike terms and conditions, to develop the natural resources of our highway streams, both for power as a private business investment and for navigation as a concession to the general public interest. Not only have such improvements, the only feasible improvements for navigation, been stopped in this country, but, impatient at the delay, discouraged by the insistence upon

¹ Act of Sept. 19, 1890, 20 Stat. L., 426; act of July 13, 1892, 27 Stat. L., 238; act of Mar. 3, 1899, 30 Stat. L., 1121; act of June 21, 1901, 34 Stat. L., 396; act of June 23, 1910, 36 Stat. L., 593.

² Report of Senator Bankhead on Coosa River bill, S. 7343, 62d Cong., 2d sess., and document entitled "Federal Control of Water Power," being papers submitted to the Committee on Commerce, Senate, 62d Cong., 3d sess.; also, "Limitations of Federal Control of Water Powers," by Rome G. Brown, argument before National Waterways Commission, S. Doc. 721, 62d Cong., 2d sess. Report of Subcommittee on Dams and Water Powers to Committee on Interstate and Foreign Commerce, House of Representatives, 60th Cong., 2d sess., Feb. 25, 1909.

impossible burdens and the threat of further restrictions, charges, tolls, and tributes, investors and their capital and all the industrial development which they signify have been driven to other countries, not only to Canada but even to Norway.

It was this obstructive policy that forced the passage by Congress of the inadequate, indefinite dam act of 1910. It is these obstructionists who have prevented construction, even under the drastic terms of the 1910 act, for they have insisted upon adding to the burdens and uncertainties of that act as a condition for the investment of private capital in navigation improvement. Investors, principally foreigners, who relied upon the enforcement in good faith of the statutes regulating dams built by private investment, proposed to furnish the necessary capital for the construction of a hydroelectric navigation dam at Lock No. 18 upon the Coosa River. The construction by a private company under the terms offered by the now noted Coosa River bill would save to the United States an initial cost in its navigation expense of over \$1,600,000. Assuming the cost of money at 5 per cent, this would mean annual tribute by the investor for the benefit of the Government of over \$80,000. Add to this the extra expense of maintenance, renewal, and operation, and the annual tribute would amount easily to \$90,000. This would be a tax or toll upon the 10,000 horsepower of energy producible of \$9 per horsepower per year. With such burdens the practicability of the enterprise as a means of financial investment was so doubtful that many investors originally contemplating participation withdrew. Congress had all the facts before it, and considerately and deliberately, in the exercise of its discretion, granted the permit. But through the influence of the extreme obstructionists, who misrepresented the facts, the executive department at Washington was prevailed upon to veto the bill, because further definite charges and further indefinite provisions for still further charges were not made conditions of the permit. The will of Congress was thwarted under the cry of "conservation," and, in the same name, its enactment is to-day heralded as an "indefensible" measure.

Let us see what sort of conservation was denoted by that veto. It prevented or postponed for a long period the development of ship transportation along the natural waterways of two great agricultural and manufacturing States. It deprived the Government of a benefit amounting to \$9 per horsepower produced at the development by the private investor. It means that our limited coal resources are still unnecessarily being diminished to the extent of over 150,000 tons of coal annually, which energy might otherwise have been replaced by water power which is still running to waste. More than that, the depleted fertility of the soil of the Alabama farms would have been renewed in the locality of the manufacture from the air of nitrate fertilizers, for the making of which the proposed water power was practically all to be used, and which through cheap water power afforded there by nature could be marketed at much less than the cost at which it is now imported from the factories run by foreign water powers. The principle of conservation of the soil and of every natural resource was violated. Thanks to this policy of obstruction, there is not to-day in this country a factory producing the newly discovered nitrate fertilizer, which, through the use of water power,

may be produced from the atmosphere; and industries for its manufacture have been driven to Canada and to European countries to build up foreign industrial development and to enhance the cost of conserving soil fertility in this country. Abroad there are to-day over 1,000,000 hydraulic horsepower utilized for the fixation of nitrogen from the air for use as fertilizer in the form of nitrate of lime. At one point in Germany a factory which produces annually 20,000 tons of nitrate of lime sells its entire product within a radius of 100 miles of its factory; and the farmers who use it testify that it increases their crops threefold.¹

There are to-day in the streams of this country, developable as a commercially feasible proposition, but undeveloped through fear of private capital for its investment, 20,000,000 horsepower of water power, a waste of energy equivalent in amount to that afforded by more than half of the total annual coal consumption.

The defeat of the Coosa River bill for a navigation dam at Lock 18 was an obstruction of a wise and practical conservation, caused by the interference of those extremists who stand for unlimited Federal control. The case of the veto of the Dixie power bill for a navigation dam upon the White River in Arkansas was different. That measure may be rightly said to have been defeated by an overinsistence of the extreme view of the State right of control reflected in the bill itself, for it provided for the ultimate turning over to the State of Arkansas the navigation improvement in question, together with its control, thereby failing to recognize the established right of Federal control for navigation purposes. It was on the ground of this defect that the bill was vetoed, although even without these defects the then extreme view of Federal control would have caused its veto because it did not contain certain illegal and unwise provisions for toll and tribute, out of the proceeds of the private investment.

On the Connecticut River, at Enfield Rapids, located between Hartford, Conn., and Holyoke, Mass., in a thickly settled portion of the country, where the demand for power is instant and unlimited, the Government has never been able to provide adequate navigation facilities. Its policy of inaction in the past demonstrated that without the aid of private capital neither navigation facilities nor the utilization of the wasting water power would ever be accomplished. A private company asked of the Congress of 1912-13 that it be allowed, free of expense to the Government, to furnish adequate navigation facilities, with up-to-date structures sufficient for present and all future requirements of navigation, as a consideration for a permit to construct a hydroelectric navigation dam which would carry slack-water navigation between two States, and it proposed to maintain and operate the dams and necessary locks for all required purposes. The investment in this instance was so attractive that the private owners would have consented to pay to the Government tolls from their revenues rather than to have lost the investment. Through the influence of the then Secretary of War the payment of tolls was insisted upon as an ultimatum for the approval of the measure by the

¹ Report Senate Commerce Committee on bill 7343, 62d Cong., 2d sess. Veto message of the President on the same bill compare opinion of Secretary of War Taft in Desplaines River matter, Feb. 23, 1907, report House Committee on Interstate and Foreign Commerce, Feb. 28, 1909, 60th Cong., 2d sess.; also address by Frank S. Washburn on "Agricultural Fertilizers from the Air in Relation to Water Power Development," before Fifth Annual Convention of the Conservation Congress held at Washington, D. C., Nov. 18-20, 1913, printed as S. Doc. No. 267, 63d Cong., 2d sess.

executive department of the Government. The accomplishment of the enterprise was prevented through the delay arising from the controversy over the question of tolls. The Senate, however, by a vote of more than three to one declared its opposition as a matter of principle against the reservation to the Federal Government of tolls and charges out of the revenues of the water power developed by private investment.¹

On the Columbia River in Washington a feasible navigation and water-power improvement would make navigable rapids and falls to a height of 80 feet and would extend the already 400 miles of navigability above its mouth to the fruit-producing plains of Wenatchee and make navigable the entire river from the Pacific Ocean to the Canadian border. A hydraulic navigation dam sufficient for these purposes could be constructed at a cost of approximately \$20,000,000, a sum which the Government would never expend upon such an improvement, but which private capital stands ready to invest because the resulting power would amount to over 300,000 horsepower. Besides affording free of cost to the Government all necessary navigation facilities, it would furnish the power and water to reclaim over 150,000 acres of soil composed of volcanic ash, unirrigated and unproductive, situated 400 feet above the level of the river. The reclamation would be not for the benefit of a speculative enterprise but for the 1,000 and more bona fide settlers who have taken up the land and who have long been waiting for the necessary irrigation to cultivate. The money for this improvement has been ready for years. A congressional permit for the improvement is necessary because it is upon a navigable stream, but no permit would be accepted burdened by the present uncertainties of tenure and of restrictions and hazards now threatened to such investments. In the meantime the natural resources of soil, power, and commerce, which could otherwise have been long since utilized, are suffering a waste which can never be recouped.

The Long Sault Development Co. stood ready up to about a year ago to invest \$50,000,000 in improvements for navigation and power uses on the American side of the St. Lawrence, near Massena, N. Y. Against this enterprise the propaganda of obstruction threw itself, with the result that no possible working conditions could be obtained. At a sacrifice of over \$1,000,000 spent in engineering and promotion that company has now abandoned the proposed enterprise forever, and instead is now constructing upon the unnavigable reaches of the Tennessee River, under State encouragement and State control, water powers for the manufacture of aluminum products. It has chosen the more expensive, but more secure, investment, safeguarded by the co-operation of the State of Tennessee.²

As against utilizing the wasting powers upon the navigable streams of Alabama and Tennessee the French Aluminum Co., driven from the large water powers of the navigable streams by fear of the exist-

¹ Majority and minority reports United States Senate Commerce Committee, No. 1131, 56th Cong., 3d sess.; also article in Case and Comment, March, 1913, "Who owns the water powers?" by Rome G. Brown.
² Report of hearings on the St. Lawrence River near Long Sault, N. Y., on H. R. 33219, 61st Cong., 2d sess., and H. R. 1453, 61st Cong., 2d sess., before House Committee on Rivers and Harbors, 61st Cong., 3d sess.; also report No. 2032 from Committee on Rivers and Harbors accompanying H. R. 32219, 61st Cong., 3d sess.

ing conditions of uncertainty and of hazard to investment under Federal supervision, has chosen to expend its \$5,000,000 and more of capital in hydroelectric developments upon the Yadkin and other small streams in North Carolina and to keep its investments free from the present announced uncertainties of Federal control. For the same reasons developments have been made upon the small streams of Georgia and other parts of the country, and thousands of miles of transmission lines carrying light and energy have artificially built up new empires of industry in the remote country districts adjacent to the small streams, while the natural facilities for navigation improvement and the latent energies of the large highway streams are wasting from nonuse.

PRESENT OBSTACLES NOT EASILY REMEDIED.

The main obstacle, then, preventing improvement of the natural water resources is the present legislative discouragement of private investment. The legislative policy at present enacted, as well as proposed, must from its very nature and as demonstrated by experience has driven capital not only to the smaller streams free from Federal interference but to the large navigable streams of foreign countries. These legislative obstacles are of two classes: (1) Statutory restrictions, together with the present policy, or lack of policy, with regard to their enforcement; and (2) the persistent advocacy of further restrictions and burdens upon development by private capital, which make private investors halt for fear of returns ultimately insufficient and for fear of an entire loss of investment.

But this is not all. The very abuses of action and abuses of inaction which have been practiced by the Federal Government, through its Congress and its executive departments, have demonstrated to investors the possible insecurity of any investment made or to be made under Federal control. It has made them distrustful as to the exercise of any discretion left to any Federal legislature or department. The considerations involved are similar to those governing any business transaction. The first requirement is that of a feeling of confidence and good faith the one party with the other, and that, too, independent of the precise written terms of the instrument which purports to govern their respective relations. You may to-day pass an act of Congress which by its written terms provides in every detail business-like safeguards to these private investments which are to be made under Federal consent. It will take a long time, however, to restore that confidence in the good faith of Federal administration which is necessary as an inducement to every transaction involving the investment of capital; to restore that confidence shattered by the vacillating and contradictory administrative policies of the past six years or more which have marked this stagnation in navigation and water-power development upon navigable streams.

The crux of the difficulty is this: Our system of Government contemplates a power of legislation by Congress limited by express reservations written into the Federal Constitution. Controversies, therefore, with regard to Federal enactments have too little regard for the questions of expediency and of the rights of control and of property belonging to the respective States or to individuals. The

tendency is to assert, by subterfuge and indirection if necessary, the utmost power on the part of Congress which may be read into the fundamental law defining that power. The efforts of extreme factions at times seem to be to demonstrate not their notion of right or of expediency, but by legislation to announce a doctrine that Congress can not be prevented from doing this or that thing. It is the too prevalent notion that, if in fact there is a power to do, that power should be exerted to its utmost. Questions of expediency and business policy and due regard for logically constitutional rights are overshadowed by the greed for the exercise of power as such. In a jurisdiction where the legislative power is unlimited by written fundamental law, and where the wise discretion of the legislature when enacted into law is at once the law and the constitution, it would be abhorrent to propose even before a legislative body or committee many of the measures which are proposed and urged in our Federal Congress relating to the uses of water—abhorrent as obstructive to industrial development, as confiscatory of the rights of States and of individuals, and as a usurpation by Federal interference.

Let us, then, discuss present and proposed legislation with a view to arriving at a wise policy, consistent with practical expediency and with the working out of a really progressive, constructive, feasible plan of legislation which shall cure the present faults and insure in the future the businesslike cooperation of private capital without which the utilization of our water resources can never be accomplished.

THE INSUFFICIENCIES OF THE PRESENT DAM ACT.

The dam act of 1910, which now governs the granting of permits for dam structures upon navigable streams, was a compromise measure intended to satisfy, so far as possible, the demands of the advocates of extreme Federal control as to restrictions to be placed upon the private investor. It assumed too much that the required power of consent by the Congress was an arbitrary power for all purposes and that any investor in an improvement upon a navigable stream should place his entire capital at the whim or caprice of the Federal Government, or of its representative departments. Besides providing that the structure plans shall be approved by the Secretary of War and the Chief of Engineers, it gives those department officers the power, as a condition of such approval, to impose charges, indefinite and unlimited, sufficient to allow the Government to restore without expense the natural condition of the river whenever the structures shall be deemed an obstruction to navigation. It further provides for charges, also indefinite and unlimited, for any benefit which may accrue from headwater improvements operated by the Government, and also generally that any conditions, of whatever kind, may be imposed at the discretion of the same departmental officers, which they may deem protective of the interests of navigation. It limits the period of the permit to 50 years without any provisions for renewal or for compensation at the end of that period to prevent ruin or loss to the grantee. It provides that the private investor shall construct, maintain, and operate locks, booms, sluices, etc., for navigation, and other locks and structures afterwards deemed necessary for navigation, and that

Congress may at any time arbitrarily revoke the permit upon paying merely the then reasonable value of the structures. This act has been universally condemned by practice and by experience. The National Waterways Commission in its latest report says with reference to these provisions:

Experience has shown that these provisions are not well suited to encourage development of water power or to protect the public interest. Nothing is more discouraging to the investor of capital than uncertainty. * * * The necessity of amortizing the plant, in addition to all other costs of rendering the services, will inevitably result in an increased charge to the consumer, which amounts to a tax of doubtful equity on the local community for the benefit of the General Government. This unnecessary burden could be avoided if Congress would enact legislation providing for a more equitable form of franchise.¹

Various attempts have been made to remedy the defects of this act of 1910, but such attempts have been prevented by the intervention of those who would add further burdens and uncertainties. These obstructive interveners have not allowed the Congress, to whose discretion within reasonable bounds is left the determination of these questions, to grant permits, even under the drastic provisions of this act of 1910. Such attempts as shown in the instance of Coosa River bill have been thwarted by the influence of the super-nationalistic idea urged by those pseudoconservationists who would extend the Federal right of navigation control to the practical ownership by the Federal Government of all State and private rights in streams and their beds and to the direct Federal control, both as to interstate and intrastate transactions, of persons or corporations engaged in these improvements as a condition precedent to the consent of the Congress for a hydroelectric improvement upon navigable streams.

AN OBSTRUCTIVE LEGISLATIVE PROPAGANDA.

An obstructive propaganda manufactures an artificial public sentiment against some particular interest, or against business interests in general, by the use of stock phrases about monopoly, speculation, trusts, and charges of undue cost to the consumer. It is such a propaganda, advocating proposed legislative measures even more stringent and more burdensome to the private investor than those now existing, which, more than any other thing, has created legislative obstacles to the improvement of navigable rivers.

The present extended period of stagnation in the improvement of our highway streams for navigation and water-power uses, caused by the refusal of private capital to risk investment necessary for its required cooperation with the Government, is, more than any other thing, the direct result of the persistent advocacy in public and in private of that discredited policy of past administrations, that policy against which both the people and their representatives in Congress have declared open revolt. It is the doctrine of absolute and unlimited Federal control of the undeveloped water powers as directly or indirectly the property and resource of the Federal Government itself; of the turning over to the Federal Government by indirection

¹ Report National Waterways Commission, S. Doc. 469, 62d Cong., 2d sess., p. 54. The "Conservation of Water Powers," by Rome G. Brown, reprinted from the Harvard Law Review of May, 1913, S. Doc. No. 14, 63d Cong., 1st sess. "Water Power in the United States," by M. O. Leighton, Chief Hydrographer of the Geological Survey in "Annals" of Am. As. Pol. and Soc. Science, May, 1909. Report of Commissioner of Corporations on Water Power Development in United States, Mar. 14, 1912.

those rights of control and of property which by the law of the land have been established as belonging to the States and to the individual citizens of the States. It is the mistaken, unpractical, extreme idea with which a certain class of agitators are obsessed, and in the furtherance of which bureaus of misinformation are conducted. They may temporarily gain favor with unthinking people by their obstructionist cry of monopoly, speculation, and their advocacy of added burdens, restrictions, and charges upon the private investor. Theirs is merely the stock phrase-making arguments against private capital. It is the socialistic argument of centralized, paternalistic control. But ours is a Government of expressly limited Federal power, subject to which all other powers of control are left to the States, and subject to which the property rights of States and individuals upon navigable streams are fixed by the law of the States as pronounced by the State courts.¹ These obstructionists are blinded by the fallacious notion that proper regard for the protection of private investors, especially in their relations with the Federal Government, is a heresy of conservation, and that the reservation to that Government of the utmost possible of profit and advantage is of the essence of conservation. Through the hue and cry raised by them the water resources of this country are left running to waste, and conservation in its own name is made to defeat itself.

THE HUE AND CRY ABOUT SPECULATION AND MONOPOLY.

Great stress is laid by these agitators upon the claim of "speculative holdings of undeveloped water-power sites," and their increase by a large percentage over the holdings of developed powers during the last five or six years.² They shut their eyes to the cause of the lack of development during the same period. It is the distrust and feeling of insecurity, undue financial hazard, and the lack of confidence in Federal control, disseminated by these very agitators who set up a hue and cry about speculation and monopoly, that has rendered impossible the financing of these developments and has kept undeveloped and running to waste the million and more of horsepower of water power in Alabama and other States appurtenant to sites held for development as soon as reasonable terms could be obtained.

Nor is the cry of "monopoly" in this question of water-power development by private capital anything more than an artificial bogey to advertise obstructionist argument. The facilities for water-power development are isolated, and each development itself is by nature essentially monopolistic. Economy of operation and adequate service to the consumer require the tying together of different plants so far as possible. As late as November 23, 1911, the then Secretary of the Interior Fisher stated to the National Waterways Commission that, in his opinion, there should not be any provision in Federal permits against so-called combinations or monopolies. "I think," he said, "hydroelectric development is essentially and should be essentially monopolistic in its character. * * * They should have the advantage of the control of the market and freedom from

¹ *St. Anthony Falls Water Power Co. v. Water Commissioners*, 168 U. S., 358, and other cases cited in "The Conservation of Water Powers," *supra*.

² Majority and minority reports of the water-power committee of Mr. Pinchot's conservation congress, fifth annual convention, held at Washington, D. C., Nov. 18-20, 1913.

harassing and vexatious competition if we are going to put them under the disadvantages of effective public regulation."¹

All danger of disadvantages from speculation or monopoly can be easily obviated by a provision requiring that after a permit is given developments shall progress, under the direction of the Secretary of War or other proper authority, with reasonable promptness, and consistently with market demands and economical operation.

The opposition to constructive progress of the development of industries dependent upon water power has not been so much within Congress as from without. The persistence and activity of these obstructionists have been directed to the prevention of the carrying out of the true principles of conservation.

THE CHANDLER-DUNBAR DECISION.

It has been claimed by certain extremists that the recent Chandler-Dunbar decision² is "epoch making," that it turns over to Federal control all the rights heretofore claimed to belong to the respective States and to private riparian owners in the beds and waters of navigable streams, and that in the case of even a private hydroelectric navigation development it authorizes a charge and toll out of the revenues of the investor for the benefit of the Federal Government. On the contrary, this decision confirms the law of control as theretofore established. It confirms the recognized paramount right of the Federal Government to regulate navigable streams in the interests of navigation. It confirms the right of the Congress to pass and to enforce the act of 1909, asserting the necessity of entire control in the interests of navigation of the straits of the Sault Ste. Marie in order adequately to protect the navigation between the two great inland seas through which the yearly tonnage exceeds by far that of the Suez Canal. That decision was neither an assertion nor authority for an assertion upon the part of the Federal Government of the unlimited Federal control for all purposes of the highway streams of the United States.

THE SECRETARY OF WAR SHOULD BE AUTHORIZED TO GRANT PERMITS.

One of the obstacles of existing legislation is the requirement that for each particular hydroelectric navigation improvement on streams affording interstate navigation, even though requiring no outlay by the Government itself, a special act of Congress is required. But there is no reason, in cases requiring no appropriation by the Government—that is, where the improvement is to be made at the expense of the grantee—that all rights and interests of the Federal Government, of the public, and of the private investor can not be adequately safeguarded by a general act asserting general provisions for control and regulation and giving to the Secretary of War the power to grant permits subject to such act. The same legislative conditions would govern any permit to be issued, and would include protective provisions in general terms sufficient to cover any particular instance,

¹ Report, 1912, National Waterways Commission, 186.

² The United States v. Chandler-Dunbar Water Power Co., — U. S., —, decided May 26, 1913.

except those involving purely engineering problems. It is unnecessary and even absurd that the technical engineering problems, decisive of the issuance of each particular permit, should be thrashed out before the committees or on the floor of the National Congress. They should be left, as in other similar instances, to the investigation and decision of that department having jurisdiction thereof and especially qualified to hear and determine the questions involved. Subject, then, to the general conditions which Congress may provide as necessary to protect the Government and to attract private investment, the permit itself in any particular instance should be left to the War Department, with authority to solve all the engineering problems involved, and to compel a construction which shall be consistent with present and future navigation requirements.

REMEDIAL PROVISIONS SUGGESTED.

The present problems of navigation improvement can be solved only by a proper legislation, protecting the constitutional rights of the Federal Government and at the same time establishing a policy of attracting the investment of private capital. This should include such provisions as the following, defining the terms of the establishing of hydroelectric works on navigable streams as against the interests of the Federal Government:

(1) Indeterminate permits subject to revocation upon compensation; or permits given for a definite term of not less than 50, nor to exceed, say, 100 years, varying according to the amount of investment per horsepower to be produced, unrevocable during the fixed term except for cause, otherwise only revocable after the expiration of the term; and in all cases of revocation upon compensation. Compensation must include the payment to the grantee of all his necessary investment for structures and building up his business which are a part of or appurtenant to his plant and enterprise, no value to be added for the Federal permit itself, and the assumption of all outstanding bona fide contracts made by the grantee.

(2) All structures affecting the flow to be made in accordance with plans approved by the Secretary of War and Chief of Engineers, in order to protect present and future navigation requirements.

(3) All permits to be only to States or municipalities, or to public service corporations, the regulation of whose corporate affairs including rates shall be left to the proper State authorities with power to Congress to intervene so far as necessary for adequate protection of the public.

(4) In order to prevent speculative holdings, proper provisions compelling the utilization of power facilities within a reasonable time after issuance of Federal permit.

(5) No tolls or fees except such as are necessary to cover the cost of service inspection, etc., directly chargeable to the exercise of governmental functions, but, as a recognition of the paramount right of Federal control for navigation, the grantee to provide to a reasonable extent, consistent with existing conditions, navigation facilities, including power for their operation.

GENERAL NOTE.

It is not intended in this discussion to suggest all the provisions necessary to remedy existing legislative obstacles nor to argue in detail for or against specific provisions, much less to formulate a draft for a proper dam act. I present the following suggestions for consideration upon certain points necessarily involved:

Congressional authority should be general.—Final permit in the case of each development should be by the Secretary of War, subject (1) to the general provisions and authority of the general dam act and (2) subject to his approval of structural plans. Reasons therefor are above suggested.

Term of grant.—Logically the grant should be indeterminate, thus reserving to the Government the power to take over the property and business on payment of proper compensation. But in any case of taking over by the Government, whether under indeterminate or a definite-term grant, provision for compensation should be made such as to attract private investment. If a definite term is preferred, care should be taken to provide adequate protection to private investment. A uniform limit of 50 years, while sufficient in some cases, would prohibit in many instances. Sufficient elasticity in the length of term should be provided to meet varying physical and market conditions. In a locality where industries are already developed or quickly developable the investor might be sure of adequate return on his entire investment from the beginning of operation. In other instances the investment in whole or in part might have to wait many years for a market to be built up within feasible limits of transmission, and thereby return on investment proportionately postponed. Amount of investment per horsepower produced varies widely. These and other reasons would make a 50-year limit attractive in one case and prohibitive in another. Proper adjustments as to length of term would meet the varying requirements for the necessary financing, and at the same time protect all public interests.

Compensation upon revocation.—The provision for compensation should include more than merely the then physical value of the plant. It should include all sums properly charged as capital investment. Legitimate expense and loss are incurred by investors from lack of return upon investment while waiting for a market, cost of building up a market and business, obsolescence, replacement, and added facilities by new structures and appliances to keep the service up to date and in accordance with the latest discovered methods of economical operation. These items of expense and loss can not be charged back to the consumer in a manner to protect the investor under a revocable permit which does not include as compensation the amount of capital investment necessary to finance and carry these and other similar items. For similar obvious reasons compensation should not be confined to merely the water-power plant, but to the hydroelectric plant and business as a whole.

The contracts to be assumed should include all bona fide contracts for services or otherwise. Within a comparatively short period prior to the time allowed for revocation an advantageous contract for service might be obtainable if it could be made for a term of years extending beyond the possible revocation, which could not be obtained

if revocable itself within the limits of the term necessary to procure the contract. Also money required for financing represented by funded debt might not be obtainable, or only obtainable at excessive cost, if the property and business for which it is security is to be revocable. So far as bona fide, contracts for such payment of money should be protected. Of course their assumption would be charged as part of the compensation to be paid on revocation.

Corporate capacity of grantee.—If the grant is not to a State or municipality it should be only to a public service corporation properly organized with authority to carry on a hydroelectric public service business. This would insure authority for regulation not only of rates but of the financing and general control of the grantee with respect to the conduct of its business and its relations with the consumer and the public in general. State control, so far as feasible, should be encouraged and have preference, with proper recognition of Federal right of control where necessary. If the grantee is a State or municipality, then as between such grantee and the Federal Government the provisions should be the same as when grantee is a public service corporation. The taking over of the plant and business on revocation should in all cases be reserved to the Federal Government, and thus the paramount right of Federal control for navigation purposes consistently preserved. The rights of State control would remain as established by law.

Speculative or monopolistic holdings.—On this point see more detailed discussion above. The provision, sometimes suggested, that transfer should not be made without special Federal consent, would not aid in preventing monopolistic tendency, if any otherwise threatened, while at the same time it would add a restriction tending to prohibit necessary financing. The suggestion for such restriction against assignment springs from the too prevailing tendency in these matters to overrestriction and to overregulation. This is not to say that they would not be legal and enforceable. The answer to such class of suggestions was best made the other day, when a well-known Senator, referring to certain proposed provisions for regulation, said: "That's the trouble with the present craze for restriction and regulation of private investment in these enterprises. You regulate and restrict to the extent that you have nothing to regulate." The point of his remark is shown by the refusal of private capital during the past six years or more, as outlined above, to cooperate with the Government in these enterprises under the now existing and threatened legislative obstacles to private investment.

Charges against the grantee.—No charges or rentals out of the investment or revenue of the grantee should be made as a tribute or toll to the Federal Government. This question has been thrashed out in Congress, and it is safe to say that no bill involving this principle will be accepted. A license fee is legally allowable, although its expediency may be questionable. Such fee should be made definite and fixed by the Secretary of War when he issues final permit, and should be based upon the cost of inspection and actual service by the Government.

It is not expedient to provide that in all cases navigation facilities shall be provided and operated solely at the cost of the grantee. Such expense should be borne by the grantee to such an extent as is

consistent with the possible financing of his enterprise. In one case there is a high head, large flow, and physical conditions allowing construction at comparatively low cost per horsepower produced; in another case the cost per horsepower produced may be such that if the entire cost of navigation facilities are also placed upon the grantee the financing of the enterprise would be impossible. According, then, to varying physical conditions, the Secretary of War should, as a part of the terms of his final permit, apportion the cost of navigation facilities between the grantee and the Government in such manner as to insure all reasonable advantage to the Government in its navigation improvement without imposing burdens which would be prohibitive of private investment necessary to secure a double benefit to the public at large.

Charges against the grantee for benefits from headwater improvements by the Government should be provided in such terms as not to be made a cover for a tribute or toll out of the investment or revenues of the grantee in favor of the Government. Such charges should be confined to fair compensation for actual benefits received, to be apportioned among the several grantees receiving benefit from the same headwater improvement, and the total annual charge for the benefits to all such grantees derived from any one headwater improvement should not exceed a reasonable percentage upon the total investment cost to the Government of such improvement.

Repeal clauses.—Subject to the general provisions of a proper dam act and to the conditions of the permit issued under its authority by the Secretary of War, the rights left to the grantee should be viewed as rights of property and of contract; and such limited and defined rights should not be subject to confiscation by arbitrary repeal or amendment. Therefore, the repeal and amendment clause should protect the rights left to the private investor by proper provisions against any such arbitrary annulment or confiscation of such rights or of its property thereunder, except upon compensation as provided in the act.

CONFIDENTIAL

WATER-POWER DAMS ON NAVIGABLE RIVERS

LETTER

FROM

MR. ROME G. BROWN
OF MINNEAPOLIS, MINN.

TO

HON. KNUTE NELSON
SENATOR FROM MINNESOTA

**TRANSMITTING, PURSUANT TO REQUEST, CERTAIN VIEWS RELATIVE TO
A PROPOSED BILL TO REGULATE THE CONSTRUCTION OF DAMS
ACROSS NAVIGABLE WATERS PENDING BEFORE THE SENATE
COMMITTEE ON COMMERCE, ALSO AN ADDRESS ON
THE LEGISLATIVE OBSTACLES TO THE IMPROVE-
MENT OF NAVIGABLE RIVERS**

Printed for the use of the Senate Committee on Commerce

WASHINGTON
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1914

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CORRESPONDENCE.

UNITED STATES SENATE,
March 18, 1914.

Mr. ROME G. BROWN,
Minneapolis, Minn.

MY DEAR MR. BROWN: I inclose you a confidential print of a proposed bill relating to the regulation, leasing, and disposal of water powers on navigable streams both in cases where dams are constructed by the Government and where constructed by private capital. Knowing, as I do, that there is no man in the country who is more familiar with this subject of water power than you are, and being a citizen of the same State that you are, I should be very glad to have your views fully and in detail in respect to the proposed bill. I feel that your opinion and advice in this important matter would be of great value and assistance to me in the consideration of the proposed legislation.

Yours, truly,

KNUTE NELSON.

HARVARD CLUB OF NEW YORK CITY,
New York, March 28, 1914.

Hon. KNUTE NELSON,
*Room 307, Senate Office Building,
Washington, D. C.*

MY DEAR SENATOR: Your letter of March 18, addressed to me at Minneapolis, reached me while I was in the East. I hope that my response will reach you in time for such use as you may desire. It is obvious that you overrate the value of whatever suggestions I might make; but I am glad to comply with your request and to present herewith my views upon the confidential committee print of the draft which is in the committee's hands of the proposed new dam act, after giving it very careful consideration.

I have made for several years a special study of the questions involved and have discussed them both in public and in private. Such discussions have included my argument two years ago before the National Waterways Commission on "The limitations of the Federal control of water power" which Senator Root had printed as Senate Document No. 721, Sixty-second Congress, second session; my article in the Harvard Law Review of May, 1913, on "The conservation of water powers," printed as Senate Document No. 14, Sixth-third Congress, first session, and my address before the recent rivers and harbors congress on "Legislative obstacles to

the improvement of navigable streams," printed as Senate Document No. 332, Sixty-third Congress, second session. My efforts have been to encourage, in the public interests, the passage of a Federal statute in the place of the dam acts of 1906 and of 1910, which should remedy the universally admitted defects of those acts, by reason of which defects, and similar defects in the statutes governing water powers upon the public domain, water power development in this country has been at a standstill for many years. The conservation of water-power resources of this country has been prevented through existing legislative obstacles prohibitive of financing the investment of private capital, which is absolutely necessary to development. Water-power conservation means utilization. Its prevention or delay means waste and loss of industrial development. The manner in which the present statutes and the policy represented by them have kept private capital out of water-power development in this country is shown somewhat in detail in my rivers and harbors address of last December, which I have hereto attached. In the same address are suggested certain changes in legislative policy, as applied to dams upon navigable streams, which, while preserving fully the interests of the public, are necessary to obtain the cooperation of private capital.

A careful reading of this confidential draft discloses that it is a composite of the best thought of those who have, from an impartial viewpoint, carefully studied these questions and whose suggestions have been made with a view to working out a logical, consistent and constructive measure, fully protective of the public interests at the same time that it makes possible the financing of investment in hydroelectric plants upon navigable streams.

I will first offer some general comments and then attach a reproduction of the draft in question, with particular comments under each paragraph. In reproducing the draft I have preserved the original paging and line numbers for convenience of reference, so that my comments are in the form used by the National Uniform Law Conference in publishing their tentative drafts of statutes to be proposed for adoption by the States.

If this bill had been introduced I should hesitate to make any suggestions for amendments, but as it is still in tentative form, I am suggesting certain slight amendments which, in my opinion, will obviate some possible objections and make the bill more definite and consistent and less liable to misconstruction.

Yours, very truly,

ROME G. BROWN.

WATER-POWER DAMS ON NAVIGABLE RIVERS.

GENERAL COMMENTS.

It is unnecessary to discuss the now universally admitted fact that the dam act of 1910, which replaced the general dam act of 1906, is so faulty and insufficient that it is prohibitive of water-power development. This fact is shown both by theory and by experience. The main objections to the act of 1910, on account of which it has been impossible to finance water-power development, are:

(1) That, although it purports to provide the general conditions under which a dam may be constructed and maintained, with a view to making those conditions such as adequately to protect the public interests and to fix the status of private investment, nevertheless it contemplates a separate act of Congress for each improvement. This compels a thrashing out on the floor of Congress, as to each development, of the particular conditions to be imposed with regard to that development. The vague and indefinite provisions of the existing dam act of 1910 are practically passed upon by each such act and various added and changed conditions are urged, so that constructions and their maintenance under that act become in fact governed by conditions and provisions widely varying, sometimes in favor and sometimes against public interests, sometimes in favor and sometimes against the interest of the investor. The result is that the dam act of 1910, even if all its other provisions were definite and practical and therefore conducive to the objects for which it was passed, could not perform the functions for which it was enacted. It was intended to cover all conditions necessary to every dam and to obviate the necessity of any further provisions in each separate consent act, beyond the mere consent itself. The attempt to impose further statutory conditions in connection with the Connecticut River bill is an instance of the failure of this method. It is demonstrated that the general dam act, which should take the place of the act of 1910, should contain provisions so fully and definitely protective of the public interests that as to any particular dam the only problems remaining to be solved are those of engineering in connection with the local situation. Therefore a separate act of consent by Congress should be unnecessary and the right to develop should depend upon the permit issued by the Secretary of War and the Chief of Engineers, subject to the conditions and provisions of such general act.

(2) The provisions in the general dam act of 1910 for conditions to be imposed, both for the protection of the public interests and of restriction upon the private investment, were in such general terms that the status of private capital in such investment could not be foreseen with any certainty. Both for the protection of the public interests and in order to make definite the conditions of financing private capital investment in water-power development it is necessary that such conditions be made definite, except only as they may vary on account of the engineering problems involved in each development.

(3) Another fatal defect of the 1910 dam act was the limitation of a permit to a 50-year period without any power of extension or renewal and that there was no provision for taking over the property or compensation to the owner of the improvement at the end of that period. This compelled an amortization of the plant during the 50-year period, and therefore a corresponding undue increase of rates to consumers.

(4) The 1910 dam act made the permit revocable at any time upon the payment of limited compensation. Large water-power investments can not be assured of profitable returns until the market is built up. Profits are often postponed for many years. It does not satisfy the financier that he may get a return of his investment even undiminished. He must be assured of a profit commensurate with the risks and hazards of the business. No financier would enter into an enterprise under a permit with a certain tenure of less than 50 years, and then only upon proper adjustment at the expiration of such period.

There are other deficiencies of the 1910 dam act which will be noted later in connection with this proposed bill. But these are the main obstacles which have prevented any water-power improvement within the past six to eight years under any Federal permit granted within that time. The extent of this stagnation and the reasons therefor are further set forth in my rivers and harbors address, with concrete cases of developments that have been prohibited. Referring to these obstacles of the 1910 dam act, the National Waterways Commission in its last report stated (p. 54, S. Doc. No. 469, 62d Cong., 2d sess.):

Experience has shown that these provisions are not well suited to encourage development of water power or to protect the public interest. Nothing is more discouraging to the investor of capital than uncertainty. * * * The necessity of amortizing the plant, in addition to all other costs of rendering the services, will inevitably result in an increased charge to the consumer, which amounts to a tax of doubtful equity on the local community for the benefit of the General Government. This unnecessary burden could be avoided if Congress would enact legislation providing for a more equitable form of franchise.

This proposed bill provides in my opinion an adequate remedy for these defects in the 1910 dam act. With the exception of the fact that the consent of Congress is given subject to the conditions of the act, and that subject to the same conditions the Secretary of War and the Chief of Engineers may issue a permit, every section and provision in the bill is one of restriction, control, and regulation of the grantee. In many respects these provisions are more drastic than those contained in the 1910 act. At the same time they are definite and certain so far as they can be made so in advance. The applicant for a permit and those who are to finance his enterprise, know in advance the nature of the restrictions which are to be made part of the permit and which are to govern the rights and obligations of the Government upon the one hand and of the investor upon the other hand. The bill asserts the right of Federal control, even beyond what I would believe to be the constitutional limits; but the extent of such asserted rights is definite. Therefore an applicant may know definitely to what he is submitting. On the other hand, the proper scope and effect of State control is preserved. Again, the property rights of the grantee under his riparian ownership are not, as in the dam act of 1910, absolutely jeopardized by the reservation to the Government of arbitrary unlimited control after construction has been completed. The bill presents a measure remedial in its nature, fully protective of all legal and constitutional public rights, Federal and State, protects and preserves to the fullest extent the paramount rights of the Government in its control of the stream for navigation purposes; and at the same time it presents a definite, business-like statement of restrictions, conditions and financial burdens so that the investor and financier may know with reasonable certainty the hazards and risks and burdens involving expense under which their investment is to be made. Furthermore, it fixes a reasonable tenure irrevocable except for cause.

In my opinion such a measure adequately protects all public interests and if enacted will result immediately in large capital investment in water-power development throughout the country, and a resulting stimulation and promotion of industrial development, under proper regulation, such as this country has not experienced heretofore through any single legislative measure.

This proposed bill is so suited to the purposes for which it is proposed that the utmost care should be taken in making any changes, either by subtraction or addition, lest some provision shall be inserted which destroys the present equal balance and consistency of this draft. The amendments herein suggested are, I believe, helpful and consistent with the manifest purpose of the act. Appended hereto is the bill section by section, preserving in each part of the bill quoted the original paging and line numbers.

**DRAFT OF PROPOSED FEDERAL DAM ACT, WITH
COMMENTS BY ROME G. BROWN.**

A BILL

To amend an Act entitled "An Act to regulate the construction of dams across navigable waters," approved June twenty-first, nineteen hundred and six, as amended by the Act approved June twenty-third, nineteen hundred and ten, entitled "An Act to amend an Act entitled 'An Act to regulate the construction of dams across navigable waters.'"

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Act entitled "An Act to regulate the construction
4 of dams across navigable waters," approved June twenty-
5 first, nineteen hundred and six, as amended by the act ap-
6 proved June twenty-third, nineteen hundred and ten, en-
7 titled "An Act to amend an Act entitled 'An Act to regulate

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1 the construction of dams across navigable waters,'" be, and
2 the same is hereby, amended to read as follows:

Under the circumstances it is advisable that this act be, not a separate act with reference to dams upon navigable streams, but that it be enacted in place of the dam acts of 1906 and of 1910. This is obviously the theory of this draft. It seeks to accomplish only the objects of the acts of 1906 and 1910, but in better form and remedying the admitted defects of those acts. A separate act with an independent title would require repeal of the acts of 1906 and of 1910, and might be taken as a repeal of other existing legislation which is neither necessary nor desirable to be repealed.

The dam act of 1899 (act of Mar. 3, 1899; Stat. L., 1121) still remains in force. This act of 1899 superseded certain provisions of the former dam acts of 1892 (act of July 13, 1892; 27 Stat. L., 88) and of 1890 (sec. 7, act of Sept. 19, 1890; 20 Stat. L., 426). These former statutes contained the prohibition against the construction of dams upon navigable streams without the consent of Congress. This prohibition is now in force under the act of 1899 (sec. 9, act of Mar. 3, 1899; 30 Stat. L., 1221) prohibiting such structures "until the consent of Congress to the building of such structures shall have been obtained and until" the plans, etc., have been approved by the Chief of Engineers and the Secretary of War. The act of 1899 prohibits all structures, whether dams, bridges, or otherwise. This prohibition still remains in force. Prior to the act of 1899 the prohibition extended only to construction "in such manner as shall obstruct or hinder navigation, commerce, or anchorage of said waters" (sec. 7, act of Sept. 19, 1890; 20 Stat. L., 426; 1 Supp. Rev. Laws U. S., 80). This limitation was omitted in the act of 1899, whereby the prohibition was extended to all structures in navigable streams, whether affecting navigation or otherwise.

The theory of the dam act of 1910 was that, when consent was asked for any particular development, the consent act of Congress should consist simply of the consent and that by reference to the act of 1910 all detailed conditions and provisions regarding the rights and obligations between the Government and the permittee should be forever fixed, thus obviating a reenacting of general conditions with each consent act.

As already shown, the act of 1910 is prohibitive of investment. More than that, when the general conditions have been fixed by statute, it is inadvisable to compel a separate consent act for each improvement.

Thus the making of this proposed act as a substitute for the act of 1910 preserves the statutory prohibition against construction without Federal consent and substitutes for the acts of 1906 and 1910 a measure intended to, and which (as will be shown) in fact does, remedy the obstacles presented by the 1910 act.

Moreover, this proposed act by its first section, shown below, gives once for all, under protective and safeguarding provisions, the congressional consent required by the act of 1899, which still remains in force. The necessity for this method of consent has already been indicated and will be further discussed under section 1.

3 "SECTION 1. That the consent of Congress is hereby
4 given to any State, municipal subdivision thereof, or to any
5 public-service corporation or public-service agent of a State, as
6 hereinafter defined, after obtaining the permit of the Secre-
7 tary of War and Chief of Engineers, as hereinafter provided,
8 to construct, maintain, and operate a dam or dams and
9 accessory works for water power or other purposes across
10 or in any of the navigable waters of the United States; and
11 such grantee and such permit shall at all times be subject to
12 the provisions of this Act and also subject to such condi-
13 tions as the Secretary of War shall, in accordance with the
14 provisions of this Act, make a part of such permit. No per-
15 mit shall be granted hereunder except to a State or municipal
16 subdivisions thereof or to a public-service corporation or to a
17 public-service agent of a State organized or constituted
18 under the laws of the State or States in which such dam or
19 any part thereof is located and authorized to engage in the
20 business of furnishing to the public water or light, heat,
21 power, or electric current; and the term 'grantee' herein
22 shall mean any such State or municipal subdivision thereof
23 or such public-service corporation or public-service agent of
24 the State to which shall be granted a permit as herein pro-
25 vided; and no transfer of any such permit or of the rights

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1 thereunder granted, except by trust deed or mortgage issued
2 for the purpose of financing the business of such grantee,
3 shall be made by any grantee, without the approval of the
4 Secretary of War, to any transferee not having the capacity
5 herein specified for a grantee hereunder, and any successor or
6 assign of the rights of any such grantee, whether by voluntary
7 transfer, judicial sale, or foreclosure sale or otherwise, shall
8 be subject to all the conditions of the permit under which
9 such rights are held by such grantee, and also subject to all
10 the provisions and conditions of this Act to the same extent
11 as though such successor or assign were the grantee here-
12 under.

Congressional consent.—The general provisions of this measure are intended to be and in fact are adequate to protect all public interests in the case of any particular development. Adjustments to local conditions, arising from varying engineering problems, are left to the discretion of the Secretary of War and Chief of Engineers. The consent by Congress is not operative except as to grantees of a specified capacity who receive permits, subject to the general provisions of the act and subject also to such conditions as the Secretary of War and Chief of Engineers impose, under the authority of the act. Under these circumstances it is not only unnecessary but very undesirable, both from a public viewpoint and a private viewpoint, that each development should require a separate act of consent by Congress. All the general problems, applicable to any particular situation, have been covered by this measure. Protection for the public interests has been provided and the rights and obligations of the grantee have been specified. The congressional consent therefore should be operative upon the issuance of the permit.

It is always open to Congress, as to any developments not already made to provide any further or different conditions, if it shall choose to do so with respect to any development which shall in the future be proposed, and to make the right of any particular development subject to any conditions which it may deem proper. It is also always open to Congress to change the general conditions of this general dam act, so far as it shall relate to any proposed development under which construction has not already been made. In other words this general consent, which is carefully guarded as to its application, in no way prejudices the right or privilege of Congress to change the conditions as to any particular improvement before construction or as to the general terms of all improvements not yet constructed. Congress can at any time, if it chooses, change the policy adopted in this measure with reference to developments in general or with reference to any particular development which have not actually been made. If in the course of time, a few months or a few years, the practical working of this measure in any detail turns out to be unsatisfactory, Congress may, so far as any further developments are concerned, change its policy. The merit of this measure is that it is in every detail definite and workable.

Until, however, changes in the policy here expressed by legislative enactment are shown to be necessary the applicant for a permit should not be obliged to go to Congress for a separate act for his particular development. The mix up in connection with the Connecticut River bill is an illustration of the possible complications. Advocates of extreme views, which have been reconciled in this proposed measure, then urged that impossible provisions be inserted in the special consent act, with the result that no constructive measure was put in force and the proposed development was not made.

It seems absurd to require a separate act as to each development upon navigable streams outside the public domain when the policy of Congress with reference to water-power developments on the public domain denies the necessity of congressional consent in each instance. The statutes now existing and now proposed with reference to water-power development upon the public domain require the applicant only to get a permit from the Secretary of the Interior. Such permit involves not only the conditions governing the rights and obligations between the Government and the permittee, but also includes the grant of land and property rights, including the water power itself, which, as part of the public lands, belongs to the Government. In the case of water powers upon navigable streams not within the public domain the water-power rights are generally appurtenant to riparian land which has passed out of public ownership either by deed from the Government or otherwise into private ownership. The Federal Government has retained its paramount right of control for the purpose of navigation. Other rights and interests, generally speaking, belong to the States or to the private owner, or both. Therefore the scope of the rights granted by the permit from the War Department in the case of developments under this proposed measure is much narrower than that of the permit granted by the Secretary of the Interior under the statutes relating to developments upon the public domain. In addition, therefore, to other reasons stated, consistency would require that the method provided in this proposed measure be adopted; that is, that a general congressional consent be given, subject to the provisions of the act and also subject to the requirements which under the act may be made by the War Department.

Capacity of the grantee.—Heretofore consents or grants for developments have been made irrespective of the capacity of the grantee, with the result

of varying conditions as to control of rates, prevention of monopoly, etc. By this measure the grantee can be only of such capacity as will subject it to direct public control, both as to its rates and as to its business. The term "or public agent of a State" is wisely added, because in some States there may be a public service agent entitled to do a public hydroelectric business, which is not technically either a corporation or an arm of the State. The right of regulation is preserved by the provision that the grantee must be possessed of authority under State laws to do a public service hydroelectric business. This provision in connection with other parts of the bill insures against unlawful monopoly, illegal charges or exactions by the grantee, who from the nature of its capacity must be subject to the general regulation governing public utilities.

The transfer restrictions.—This restriction is here worded as broadly as it can be consistently with the ability to finance investment. No transfer without the consent of the Secretary of War can be made, except for security, to a transferee not having the capacity of the grantee. In order further to provide for the retention of control and regulation of the grantee and its successors and assigns it is expressly provided that whatever the manner of the transfer the transferee shall be subject to the same obligations as was the original grantee. It would be prohibitive of financing to compel every transfer whether for security or otherwise to be approved by the Secretary of War. The purposes of such approval are herein safeguarded without unnecessarily prohibiting the ordinary legitimate rights of transfer. It is a businesslike prevention of monopoly or exaction upon consumers without constituting a serious obstacle to investment.

13 "SEC. 2. That the Secretary of War may, upon the
14 advice and with the approval of the Chief of Engineers,
15 grant a permit or permits for such dam or dams and acces-
16 sory works upon the following conditions:

17 "First. The plans and specifications for such dam and
18 all accessory works, together with such drawings of the
19 proposed construction and such maps of the proposed loca-
20 tion as may be required for a full understanding of the sub-
21 ject, shall be submitted to the Secretary of War and the
22 Chief of Engineers for their approval, and when approved
23 shall be made a part of such permit; and thereafter no
24 change in such plans or specifications shall be made except
25 as such change shall be approved and made a part of such

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1 permit by the Secretary of War and the Chief of Engineers.

2 "Second. The plans, specifications, and location for any
3 dam shall be such as in the judgment of the Secretary of
4 War and the Chief of Engineers shall be best adapted to a
5 comprehensive plan for the improvement of the waterway
6 in question for the uses of navigation and for the full de-
7 velopment of its water power and for other beneficial public
8 purposes, and best adapted to conserve and utilize, in the
9 interests of navigation and water-power development, the
10 water resources of the region.

11 "Third. As part of the conditions of such permit the
12 Secretary of War and the Chief of Engineers may, in so far

13 as they deem the same reasonably necessary to promote the
14 present and future interests of navigation and consistent
15 with a reasonable investment cost to such grantee, make
16 any or all of the following requirements: (a) That such
17 grantee shall, to the extent necessary to preserve navigation
18 facilities equivalent to those existing prior to the construc-
19 tion of such dam, construct, in whole or in part, without
20 expense to the United States, in connection with any such
21 dam, a lock or locks, booms, sluices, or other structures for
22 navigation purposes, in accordance with plans and speci-
23 fications approved by the Secretary of War and Chief of
24 Engineers and made a part of such permit; (b) that such
25 grantee shall furnish, ~~free of cost,~~ power for the operation of

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1 the same *free of cost when there is a surplus of power in excess*
2 *of other consumers' demands and at cost when there is no such*
3 *surplus*; (c) that in case such navigation facilities shall not
4 be made a part of such original construction at the expense
5 of the grantee, then, whenever the United States shall deem
6 such navigation facilities necessary, the grantee shall convey
7 to the United States, free of cost, such of its land as may be
8 required for such navigation facilities, and shall furnish, ~~free~~
9 ~~of cost,~~ power for the operation of the same *free of cost when*
10 *there is a surplus of power in excess of other consumers' demands*
11 *and at cost when there is no such surplus*; (d) that such grantee
12 shall reimburse the United States for the cost of any investiga-
13 tion necessary for the approval of the plans as herein provided
14 and for such supervision of construction as may be necessary in
15 the interest of the United States; (e) that such grantee shall pay
16 to the United States reasonable charges in consideration of the
17 benefits accruing to the water power of such grantee through the
18 construction, operation, and maintenance by the United States of
19 headwater improvements, including storage reservoirs, on any
20 such stream, such charges to be fixed from time to time by
21 the Secretary of War and Chief of Engineers and to be based
22 upon a reasonable compensation equitably apportioned
23 among the grantee and others similarly situated upon the
24 same stream receiving benefits by reason of increase of flow
25 past their water-power structures artificially caused by such
26 headwater improvements, the total charges to all such bene-
27 ficiaries from any such headwater improvement not to exceed
28 in any one year an amount equal to six per centum of the

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1 total investment cost, in addition to the necessary annual
2 expense of the operation of such headwater improvement;
3 (f) that such grantee in the construction, maintenance, and
4 operation of such dam and accessory works may occupy and
5 use such lands of the United States as may be necessary
6 therefor, and in consideration thereof shall pay to the United
7 States such charges, not to exceed an annual payment of five
8 per centum of the fair value of such lands, as may be fixed
9 by the Secretary of War and Chief of Engineers, and in
10 fixing such charges consideration shall be taken of the bene-
11 fits accruing thereby to the interests of navigation as well as
12 to the business of such grantee.

13 "In fixing such conditions, or any of them, the Secre-
14 tary of War and the Chief of Engineers shall also take into
15 consideration the probable cost to such grantee of construc-
16 tion and maintenance and operation per horsepower de-
17 veloped and the probable consumers' rate required to pro-
18 duce a reasonable return upon the investment required of
19 such grantee. *As between contesting applicants for a permit here-
20 under preference shall be given to that applicant which, at the time
21 of the issuance of such permit and under the laws of the State or
22 States in which the dam is to be constructed, has become best qual-
23 ified therefor and has to the greatest extent acquired rights and
24 property necessary for the construction, maintenance, and opera-
25 tion of such dam.*

Section 2 details some of the restrictions and burdens which may be put upon the grantee. They are however made, so far as possible, definite, so that the grantee may know generally in advance the hazards of his investment. The paramount rights of navigation are preserved and the plans, specifications, and location of the proposed dam must be approved by the War Department after the grantee has furnished full information including maps and drawings; which can not be deviated from without official approval. Moreover (paragraph second) the War Department may compel such location and plans as are most consistent with a comprehensive development and utilization of the navigation and water-power resources, not only of the stream itself but of the entire region. These are engineering problems peculiarly resting with the War Department.

Paragraph third, of section 2, has specified certain obligations and burdens which the War Department may impose as conditions of the permit. Under the broad arbitrary discretion and indefinite provisions of the 1910 act there was no adequate provision for the instances where the grantee might be, consistently with the investment cost, able to build part of the navigation facilities at its own expense, but where the entire cost of such facilities including maintenance and operation, might be prohibitive of investment and therefore of development. The questions involved under varying conditions are problems of engineering and of computations applied to the particular situation. In different instances, even without navigation facilities being provided at the expense of the grantee, the physical conditions might so vary that the investment cost of the structures for water-power development would be per horsepower produced prohibitive or nearly prohibitive in one case and so much less in another case that the investor could afford further expense. Therefore the extent of the burden to be required for

navigation facilities which are to be furnished free of expense to the Government should be fixed with proper consideration for the total investment cost per horsepower produced. In some instances the Government would get the benefit of all navigation facilities without expense; in others it could get the benefit of substantial contribution or assistance; whereas an unqualified provision might be so burdensome as to prevent investment altogether either for navigation or for water-power purposes. This question seems to be covered adequately by paragraph third, subdivision (a).

Section 2, third (b).—The power to make this unqualified requirement to furnish power for the operation of navigation facilities is too broad. Having contributed the navigation facilities themselves, either in whole or in part, but in any event to the extent deemed consistent with investment cost per horsepower produced, the grantee should not be compelled, in addition thereto, to furnish in all cases power for operation. This present provision might include steam power. It might include power needed to supply regular customers which could be furnished only by failure to fulfill contracts with consumers and at an expense out of proportion to the benefits to the Government. Therefore I suggest the following amendment:

AMENDMENT No. 1.

Amend section 2, paragraph third, subdivision (b), so as to read as follows:

That such grantee shall furnish power for the operation of the same free of cost when there is a surplus of power in excess of other consumers' demands and at cost when there is no such surplus.

Section 2, paragraph third, subdivision (c).—In many instances there is no demand at present nor for the immediate future for the installation of navigation facilities; and in many instances no such facilities will ever be required, because of no navigation demand. In such instances the water power grantee should not be compelled to go to the useless expense of the construction of locks, etc. But, in order to protect future possible requirements, he is by this clause obligated to make his structures, at his own expense, yield to any requirements which the Government may deem necessary for the interest of navigation, including the furnishing of power for operation. For the same reasons as suggested under amendment 1 above there should in this connection be made a similar amendment which I suggest as follows:

AMENDMENT No. 2.

Strike out, in line 7, page 5, the words, "free of cost," and insert after the word "same" in the line the following:

free of cost when there is a surplus of power in excess of other consumers' demands and at cost when there is no such surplus;

Section 2, paragraph third, subdivision (d).—This provision for the reimbursement to the Government of its inspection cost is in line with the theory of the measure to make definite the nature of the charges which may be imposed in favor of the Government upon the grantee.

Section 2, paragraph third, subdivision (e).—The charges for benefits from headwater improvements, accruing to water powers, is neither logical nor consistent with the recognized policy of having the Government pay for the expense of all such improvements. The benefits to the water power are as incidental as any other incidental benefits to riparian owners accruing to them by reason of the increased flow which is let down from upper sources by the Government for increasing navigation facilities below. The provisions for such charges contained in the 1910 dam act are so broad and indefinite that they might be made a pretext or subterfuge for a substantial toll charge for the benefit of the Federal Government and against the water-power owner. If such charges are allowed at all they should be based, not upon the theory of exacting all that is possible from the water-power owner but on the theory of a reimbursement to the Government, either in whole or in part, for the cost to the Government of causing such an incidental benefit to the water power. Therefore if these charges are to be allowed, the provision here made goes to the limit which should be permitted. It assures to the Government a payment by all the water-power beneficiaries of a total not in excess of a good percentage upon the investment cost of the headwater improvement, including the annual cost of operation. This might work out as a special contribution by water-power owners on the river to the

general navigation advantages of the stream. The advantages to navigation uses are in nowise diminished by the accident that the extra water in passing by may be utilized for power. To charge for this incidental benefit is, therefore, extending the rights and advantages of navigation beyond their merely paramount character. It is extending them to the right to be subserved at the expense of other incidental rights upon the river. However, if this clause is left protected as it is, I would not urge its rejection. It is made definite and therefore is consistent with the necessary financing.

Section 2, paragraph third, subdivision (f).—In a few localities where undeveloped water powers are not situated on the public domain, it might be essential to water-power development that some acres belonging to the Government be utilized for flowage or otherwise. Condemnation of such lands would be impossible, and therefore it is necessary to provide for their use in connection with the navigation-water power improvement. Without such provision, or in case the provision is not made definite as to terms, a valuable navigation and water power improvement might be prevented. The maximum expense, therefore, to the investor should be fixed; and, as here, at the reasonable price of a fair percentage upon the value of the land. But where the use of lands is more beneficial to navigation interests promoted by the development than to the water-power development, the War Department in its discretion should be allowed to fix the charge at less than the maximum and in some cases, perhaps, where navigation is greatly benefited, to make no charge at all. This clause seems to cover this matter adequately.

In fixing such conditions, etc. (line 13, p. 6, sec. 2).—This paragraph allows the War Department to take into consideration the cost of construction and the probable consumers' rate which may be the result of the total expense per horsepower produced. The object of the bill is to promote development and to do away with provisions prohibitive of private capital investment at the same time that the rights of the Government and of the public are protected. Therefore, in determining the nature and extent of the burdens and charges to be imposed under the authority of the act as part of the permit the War Department should be authorized, as is here provided, to take these matters into consideration.

In connection with the issuance of permits by the War Department, it seems to me that one serious omission has been made which may be corrected by adding a sentence to the end of section 2. It is not the intention of the Government nor of this measure to destroy or to embarrass promotions of water-power development which have already been started and for the purpose of which promotions, rights, and property have been obtained not only from State authority but from private owners. Other things being equal a mere adventurer who has not acquired property rights as the basis of water-power development in a particular locality should not be allowed to jump in and speculate on the strength of an application for a permit under this act when he has no substantial basis in property rights which he has acquired for such development, nor where he has only, comparatively speaking, a remnant of property rights as against a bona fide plan of improvement by some prospective applicant for a permit based upon years of engineering and upon the ownership of comparatively all the substantial property rights necessary to the development. Many water-power developments have been planned and the foundations for them have been laid by the acquirement of property rights, including grants from the State, and capital has been procured which will be available when the present legislative obstacles prohibitive of investment are removed. These bona fide promoters should have preference as against a speculative applicant without substantial basis. For this reason I would strongly urge that at the end of section 2, after the words "such grantee," in line 19 of page 6, the following amendment be made:

AMENDMENT No. 3.

At the end of section 2 and after the word "grantee," in line 19 of page 6, add the following:

As between contesting applicants for a permit hereunder preference shall be given to that applicant which, at the time of the issuance of such permit and under the laws of the State or States in which the dam is to be constructed, has become best qualified therefor and has to the greatest extent acquired rights and property necessary for the construction, maintenance, and operation of such dam.

26 "SEC. 3. That the operation of navigation facilities
27 which shall be constructed as a part of or in connection with
28 any such dam, whether at the expense of such grantee or
29 of the United States, shall at all times be subject to such
30 reasonable rules and regulations in the interest of navigation,
31 including the control of the level of the pool caused by

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1 any such dam, as shall be made by the Secretary of War
2 and Chief of Engineers, ~~and in the use and operation of such~~
3 ~~navigation facilities the interests of navigation shall be para-~~
4 ~~mount to the uses of such dam by such grantee for power~~
5 ~~purposes.~~ Such rules and regulations may include the
6 maintenance and operation by such grantee, at its own
7 expense, of such lights and other signals as may be directed
8 by the Secretary of War and Chief of Engineers and such
9 fishways as shall be prescribed by the Secretary of Com-
10 merce, and for failure to comply with any such rule or regula-
11 tion such grantee shall be deemed guilty of a misdemeanor,
12 and upon conviction thereof shall be subject to a fine of not
13 less than \$500 for each month's default, in addition to other
14 penalties herein prescribed or provided by law.

This section intends to protect and preserve the uses of navigation. It is, in my opinion, adequate for that purpose. However, there are certain unnecessary words which are liable to misconstruction, because they apparently compel the War Department to formulate its rules upon a too arbitrary basis. The words in lines 2 to 5 of page 7, "and in the use and operation of such navigation facilities the interests of navigation shall be paramount to the uses of such dam by such grantee for power purposes," might be construed to compel the Secretary of War in all instances and at all times and without exception to make rules for the operation of navigation facilities which would be destructive, or at least seriously prejudicial, to the uses of the dam for power purposes, and unnecessarily so. At a time when the flow in the river was only sufficient, or even insufficient, to furnish the power necessary to supply regular consumption by the hydroelectric plant, a rule for operation of navigation facilities, based upon the unqualified paramount nature of navigation uses, for all purposes and at all times, might compel the shutting down of the water-power plant for the purpose of letting through the locks, at a time of day when all and more power than is available is required for actual use, a small rowboat or insignificant pleasure craft, which might be operated by an inconsiderate skipper or even by a competitor of the water-power owner. Even commercial craft might arbitrarily demand locking at a period most prejudicial to the water-power use when another time of day would be sufficient. The War Department should be allowed to make its rules and regulations for the operation of navigation facilities such as will provide for such contingencies, so far as in its judgment may be consistent with reasonable protection of the interest of navigation and preventive of unnecessary prejudice to the water-power owner. Without the words objected to, this power is sufficiently preserved in the War Department; but with those words retained the War Department might feel compelled to refuse to provide for reasonable adjustment in such contingencies. Therefore, I propose here as an amendment the following:

AMENDMENT No. 4.

In lines 2 to 5 of page 7, section 3, strike out the following words:
and in the use and operation of such navigation facilities the interests of navigation shall be paramount to the uses of such dam by such grantee for power purposes.

15 "SEC. 4. That any such permit shall not have the effect
 16 to relieve the grantee from liability for any damage occa-
 17 sioned to the property of others by the construction, main-
 18 tenance, or operation of any dam or of the works appurte-
 19 nant or accessory thereto, and the United States shall in no
 20 event be liable therefor. Any grantee under the provisions
 21 of this Act may acquire the right to use or damage any lands
 22 or property of others necessary or convenient to the con-
 23 struction, maintenance, or operation of any such dam or of
 24 the works appurtenant or accessory thereto by the exercise
 25 of the right of eminent domain either under the laws of the

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1 State in which such lands or property are located, or, in
 2 case such right can not be acquired under the laws of such
 3 State, then under the laws of the United States providing for
 4 the acquirement by condemnation of lands or property for
 5 the uses of navigation.

This section is obviously intended to prevent the claim that any property rights are acquired by the grantee, by reason of the mere receipt of a permit under this act, beyond the mere right of construction, etc., as against any objection of the Federal Government. The grantee must acquire his riparian land and flowage rights on its own responsibility and without rendering the United States Government liable in any way. The improvement, however, is not only a general public service improvement, from the water-power viewpoint, but is also a present or potential navigation improvement. The public service therefore should not be injured by the refusal of some owner of land or rights necessary or convenient for the enterprise to refuse to sell at a reasonable price. In other words the power of condemnation should be preserved to the grantee, and if it is impossible to be obtained under State laws, it should be provided under the Federal laws for condemnation for navigation uses. These objects seem to be adequately provided for in this section.

6 "SEC. 5. That the rights under any such permit shall
 7 continue for a period of fifty years from and after the date
 8 of the ~~completion of the structures provided for in such per-~~
 9 ~~mit completing and putting into commercial operation of the initial~~
 10 ~~installation required by the Secretary of War and Chief of Engineers,~~
 11 ~~as provided in section 9 of this act;~~ and after the expiration of
 12 said fifty years such rights shall continue until terminated and
 13 compensation has been made to such grantee for its property as
 14 provided in section six of this Act.

Section 5 should be read in connection with section 6. These provisions are absolutely necessary to procure private financing of water-power development upon navigation streams. As here provided, the term of permit, unless

revoked for cause and after hearing, should be irrevocable for at least a fixed term of 50 years, and after that time, as provided in section 6, should be terminable only upon notice and upon compensation.

This removes one of the main obstacles existing under the 1910 dam act, which, as already shown, has been criticized by the National Waterways Commission. The fact that no water-power improvement upon navigable streams has been made within the past 6 or 8 years under any permit issued within that time is due, more than to any other one thing, to the drastic and prohibitive provision of the 1910 act compelling the turning over of the plant at the end of the 50-year term without compensation. This would compel an amortization of the entire physical plant and investment within the 50-year period. The requirement for this extra charge upon the consumer would, in the first place, prohibit investment, because rates must be competitive with those levied for other power and they must be such as to create a demand. Excessive price to the consumer diminishes demand and restricts the market, which must be built up for the business. It prolongs the time within which the hydroelectric business could be put upon a paying basis. In the case of many hydroelectric developments it requires many years to build up such a business.

More than that the extra charge upon the consumer, as said by the National Waterways Commission, creates a tax of doubtful equity. It makes a restricted class of consumers in a particular locality pay for the benefit to the Government and to the public at large, because it enables the Government at the end of the period, in behalf of the general public, to own a water-power plant which is purchased at the cost of a restricted class of consumers in a single locality. Such amortization charge is really a tax, but it is a tax which has no logical or constitutional basis. A tax proper is based upon the amount of property or the income of the taxpayer. This tax is based upon the amount of consumption by a particular consumer and is in addition to the real price which he pays for service. Moreover, it places a burden upon the present generation of comparatively few consumers for the benefit of a future generation of the entire citizenship of the Nation. As required under the 1910 dam act, the amortization charge is unscientific, contrary to economic law, and repugnant to every legal and constitutional consideration. Whatever its effect, therefore, upon investment, it is inadvisable. But it has proven in theory and in practice as absolutely prohibitive of investment; whereas one of the main objects of this measure is to promote private investment. Not only, then, should the term of permit be made irrevocable for at least 50 years, except for cause, but adequate compensation should be provided upon its termination thereafterwards.

It has been suggested by some that the right of termination should be reserved within the 50-year period, at some time, say, after 5, 10, 15, or 20 years, upon payment of compensation. Such provision, however, would be prohibitive of investment. Such suggestion is made on the theory that the investor will be satisfied if after years of effort in putting his business upon a paying basis and in building up a market he is assured of getting back his investment undiminished. This theory is a fallacy. The investor goes into the enterprise for the purpose of making an ultimate profit. In water-power development this profit is postponed while the business is being built up, and it sometimes takes 10, 15, or 20 years to put the business upon a profit-paying basis. To reserve the right of termination upon the payment of compensation, even if it included the entire capital investment, would not obviate the objection here raised. The chief inducements to investment are the stability, permanence, and length of time assured to the investment. Even in the matter of bonds or securities in the market, all other conditions being equal, the long-time security sells at a less rate of interest than the short-time security. If the power is reserved of paying off before maturity, a premium is provided over and above the actual investment and in addition to the interest in the meantime. Much greater margins are justifiably demanded when the question is with reference to investment in water-power development, with all its extra hazards and uncertainties, unknown to ordinary securities in the market.

The preservation in substance, therefore, as outlined in this proposed measure, of the provisions of section 5 and section 6 is, in my opinion, absolutely necessary if practical results are to be obtained.

My reading of this measure has been not only from the viewpoint of the water-power investor, but also from that of the interests of the Government

and of the public. I therefore here call attention to an amendment which seems to me necessary in this section 5 in order to obviate a possible misconception to the prejudice of the interests of the Government.

In section 9 the time is provided for the completion of the initial construction, which may be a part of further ultimate developments required from time to time by the War Department, and under section 9 the ultimate development might not be required until late in the 50-year period, or even not at all during that period. In section 5 the period is made to date from the "completion of the structures," without distinguishing between completion of initial construction required under section 9 and the further or ultimate developments which may be required. It might therefore be possible to construe the two sections together so as to give a period which is obviously not intended by the drafter of the act. I believe that the provisions of section 9 should remain as they are, for reasons which I will state further. But in section 5, to cover the point just stated, I would suggest the following amendment:

AMENDMENT No. 5.

In section 5, lines 8 and 9, strike out the words "completion of the structures provided for in such permit" and insert in lieu thereof the following:
completing and putting into commercial operation of the initial installation required by the Secretary of War and Chief of Engineers, as provided in section 9 of this act.

15 "SEC. 6. That at any time after the expiration of said
16 fifty years the United States may terminate the rights here-
17 under granted upon the giving to the grantee of one year's
18 notice in writing of such termination, and upon the taking
19 over by the United States of all of the property of the grantee
20 dependent in whole or in part for its usefulness upon the
21 rights hereunder granted, which shall include all necessary
22 and appurtenant property created or acquired and valuable
23 or serviceable in the distribution of water, or in the genera-
24 tion, transmission, and distribution of power, and all other
25 property the value and usefulness of which would be de-
26 stroyed or materially impaired by such termination, and
27 upon paying to the grantee the fair value of said property,

(9)

1 together with the cost to the grantee of the lock or locks or
2 other aids to navigation and all other capital expenditures
3 required by the United States, and assuming all contracts
4 entered into by the grantee prior to the receipt by it of
5 said notice of termination which have the approval of the
6 duly constituted public authority having jurisdiction thereof,
7 or which were entered into in good faith and at a reason-
8 able rate, in view of all the circumstances existing at the
9 time such contracts were made. The fair value of said
10 property and the reasonableness and good faith of such con-
11 tracts shall be determined by agreement between the Secre-
12 tary of War and the Chief of Engineers and the grantee, and
13 in the event of their failure to reach unanimous agreement,

14 then by proceedings instituted by the United States in the dis-
 15 trict court of the United States in the district within which
 16 any portion of such dam may be located. In the determina-
 17 tion of the value of said property for any purpose as between
 18 such grantee and the United States or any State no value
 19 shall be claimed by or allowed to the grantee for the rights
 20 hereunder granted.

Section 6 should be read in connection with section 5 as heretofore stated. It provides for termination after the 50-year period upon the payment of compensation. It is absolutely necessary to financing water-power investment that the basis of the computation of such compensation should be fixed as definitely as possible. It should include, as here provided, not only the fair value of the dam structures but of the other property which is connected with or appurtenant to the hydroelectric plant or used as a necessary or convenient part of the business of the grantee in connection with his hydroelectric development. One part of the development into which his capital investment has gone may be so essential as a part of the whole that alone it has no value. Moreover as the time of termination is uncertain the grantee should be free to make such bona fide contracts for service or otherwise as are necessary to the carrying on of the business. He must not be compelled to shorten the period of his service contracts or other contracts, including those for financing, to correspond with the end of the original 50-year term. Otherwise he must make his later contracts on terms which are disadvantageous or he may be unable to make them at all. Such contracts, therefore, as are bona fide, and particularly if they have the approval of a properly constituted authority, should be protected and assumed at the time his property and business are taken over against his will, under the power of termination after the 50-year period. This would be true whether the Government takes it over for its own use and operation or for the benefit of some third party who is to take the position of a new grantee for a further period. The section provides for a proper adjustment of the compensation by agreement or by judicial determination and properly excludes from the value any value of the bare rights themselves which shall have been obtained under the permit from the Government. This same exclusion is so worded that the same value is excluded in fixing of rates or in any other computation between such grantee and either the United States or any State.

In my opinion when section 5 has been amended as above suggested, in order to prevent possible prejudice to the public interests, sections 5 and 6 provide adequately with regard to the time of permit and with regard to termination against the will of the grantee.

21 "SEC. 7. That all charges, rates, and service by any
 22 grantee hereunder shall be reasonable, adequate, and without
 23 discrimination, and shall be subject to regulation in accord-
 24 ance with the laws of the States within which service is

(10)

1 rendered: *Provided, however*, That in case of the failure of
 2 any State to provide laws for the regulation of such charges,
 3 rates, or service, then such regulation, upon complaint made
 4 and hearing thereon, may be made and ordered by the
 5 Secretary of War and the Chief of Engineers; and in case of
 6 violation of such order the provisions of section eight of this
 7 Act shall apply: *And provided further*, That in the valuation
 8 for rate-making purposes of the property of any grantee

9 there shall be included the cost to such grantee of the con-
 10 struction of a lock or locks, or other aids to navigation, and
 11 all other capital expenditures required by the United States:
 12 *And provided further*, That nothing in this Act shall be
 13 construed either to affect the right of the Congress to exercise
 14 its power of regulation of interstate commerce as applied to
 15 the business of any such grantee, or to prevent any State
 16 in which such dam with its appurtenant property is located,
 17 or in which such business is to be conducted, from making
 18 and enforcing any lawful regulation, including the levying
 19 of taxes with respect to the property or business of any
 20 such grantee.

Section 7, especially in connection with the restrictive public-service capacity of the grantee provided in section 1, assures proper regulation of the rates and business of any grantee by State laws, and, in case of failure of State laws, by the War Department. Also in connection with section 12, there are provided ample safeguards against any unlawful monopoly or restraint of trade.

The second proviso properly provides for inclusion of the actual cost to the investor of the capital expenditures required by Federal laws, as a part of the valuation for rate-making purposes.

The last proviso in section 7 is safeguarding of the rights of Federal legislation and of the rights of State legislation. The Federal power of interstate commerce regulation is expressly reserved. The State power of legislation depends upon the common law of property and other rights as the same has been established in the respective States. (*Water Co. v. Water Board*, 168 U.S., 358-365.) Some have suggested for this new dam act provisions which give to the States specific powers of legislation with reference to charges and other matters; but any such attempt would only create confusion without any beneficial result. It is sufficient to preserve to each State its constitutional right of legislation with regard to the business and property of a grantee under this act; which legislation must always be subject to the right of Congress to regulate interstate commerce and to protect the paramount interests of navigation. The provision here made goes as far as is consistent with the proper recognition of the legislative rights of the Federal Government and of the States.

21 "Sec. 8. That any grantee who shall fail or refuse to
 22 comply with the lawful order of the Secretary of War and
 23 the Chief of Engineers, made in accordance with the pro-
 24 visions of this Act, shall be deemed guilty of a misdemeanor,
 25 and on conviction thereof shall be punished by a fine not

(11)

1 exceeding \$1,000, and every month such grantee shall re-
 2 main in default shall be deemed a new offense and subject
 3 such grantee to additional penalties therefor; and in addition
 4 to said penalties the Attorney General may, on request of the
 5 Secretary of War and the Chief of Engineers, institute proper
 6 proceedings in the district court of the United States in the
 7 district in which such structure or any of its accessory works
 8 may, in whole or in part, exist, for the purpose of having

9 such violation stopped by injunction, mandamus, or other
10 process; and any such district court shall have jurisdiction
11 over all such proceedings and shall have the power to make
12 and enforce all writs, orders, and decrees necessary to com-
13 pel the compliance with the requirements of this Act and the
14 lawful orders of the Secretary of War and the Chief of Engi-
15 neers and the performance of any condition or stipulation
16 imposed under the provisions of this Act; and if the unlawful
17 maintenance and operation be deemed by the court to be
18 such as shall require, in the public interest, a decree revoking
19 all rights and privileges held under authority of this Act, the
20 court may, upon prayer of the Attorney General and the
21 finding of the court to that effect, decree such revocation,
22 and in case of such a decree the court may wind up the busi-
23 ness of such grantee conducted under the rights in question
24 and may decree the sale of the dam and all appurtenant prop-
25 erty constructed or acquired under authority of this Act, and

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1 may make and enforce such other and further orders and de-
2 crees as equity demands; and in case of such sale the vendee
3 shall take the rights and privileges and shall perform the
4 duties which belonged to the grantee, and shall assume all
5 outstanding obligations and liabilities of the grantee which
6 the court may deem equitable in the premises.

Section 8 appears, in the first instance, to be very drastic. It is, however, a default clause and provides the maximum penalties which would be applied by a court of equity only in the most flagrant cases of default. The power of the court is fully provided to meet by its decrees and orders upon an equitable basis, but at the same time adequately, all cases of neglect or refusal of a grantee to comply with the obligations imposed by the terms of the act or by any permit issued under it. In my opinion this section should stand as written.

7 "SEC. 9. That the grantee shall commence the con-
8 struction of the dam and accessory works within two years
9 from the date of the permit herein provided, and shall there-
10 after, in good faith and with due diligence, prosecute such
11 construction, and shall, within the further term of five years,
12 complete and put in commercial operation such part of the
13 ultimate development as the Secretary of War and the Chief
14 of Engineers shall deem necessary to supply the reasonable
15 needs of the then available market, and shall, from time to
16 time thereafter, construct such portion of the balance of
17 such ultimate development as said Secretary of War and
18 Chief of Engineers may direct and within the time specified
19 by said Secretary of War and Chief of Engineers so as to

20 supply adequately the reasonable market demands until
21 such ultimate development shall be completed; and exten-
22 sions of the periods herein specified may be granted by the
23 Secretary of War, on recommendation of the Chief of En-
24 gineers, when, in his judgment, the public interest will be
25 promoted thereby. In case the grantee shall not commence

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1 actual construction within the time herein prescribed, or as
2 extended by the Secretary of War, then the authority as
3 to such grantee shall terminate, and in case any dam and
4 accessory works be not completed within the time herein
5 specified or extended as herein provided, then the Attorney
6 General, upon the request of the Secretary of War, shall
7 institute proper proceedings in the proper district court of
8 the United States for the revocation of said authority, the
9 sale of the works constructed, and such other equitable
10 relief as the case may demand, as provided for in section
11 eight of this Act.

This section remedies the unworkable provisions of the 1910 dam act with reference to time of construction. It also provides that development of any particular water power shall be made as fast as reasonably required by market and other conditions. Herein lies another preventative of unlawful monopoly and of speculative holdings. By section 2 and other parts of the bill the War Department may require the plans, specifications, and location for the dam to be such as will be conducive to the most advantageous utilization of the water-power resources for water-power and navigation purposes, not only of the entire stream, but of the entire region. This means that it may and will require plans for the ultimate development larger than required for the needs of the present or of the immediate future. It will result as to each development in the inclusion in the permit of the plan which contemplates the most comprehensive and advantageous improvement. Under section 9, within the time which engineering experience has shown to be generally reasonable, the grantee may put into commercial operation an initial installation of the capacity required by the War Department, and he must afterwards install and operate as fast as required. All the problems here involved are those of engineering, and it is therefore proper that the War Department, including its Chief of Engineers, should pass upon these questions, and that also in emergencies they may grant extensions of the time provided. Failure to comply with the requirements is made the basis of revocation under all the drastic provisions of section 8.

Experience has shown that almost without exception the period of two years for commencement and five years for completion is reasonable as applied to modern hydroelectric structures. The necessary time for financing must be allowed after the permit is issued. After construction begins many unexpected difficulties may be encountered. Moreover, this measure contemplates the development of many large water powers requiring structures of immense size and at enormous expense. The provisions here set forth are sufficiently protective of the public interests and are consistent with the probable requirements of actual construction. In other words, they are consistent with what this measure is intended to be—a practical, workable measure which will promote investment and construction.

12 "SEC. 10. The Secretary of War, upon the advice
13 and with the approval of the Chief of Engineers, may lease
14 to any applicant having the capacity of grantee as herein

15 defined, and having complied with the laws of the State in
16 which the dam is constructed or to be constructed by the
17 United States, the right to develop power from the surplus
18 water over and above that required for navigation at any
19 navigation dam now or hereafter constructed, either with
20 or without contribution by the applicant, and owned by
21 the United States, and on such terms as may be deemed by
22 the Secretary of War and Chief of Engineers for the best
23 interests of the United States, and in awarding such lease
24 preference shall be given to the applicant whose plans are
25 deemed by the Secretary of War and Chief of Engineers

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1 to be best adapted to conserve and utilize in the public inter-
2 est the navigation and water-power resources of the region,
3 and all such leases and the parties thereto and the terms and
4 conditions thereof shall be reported annually to Congress.

Section 10 applies only to surplus water at navigation dams constructed and owned by the Government. The leases of such surplus water power should be confined to applicants who have the capacity of the grantees as defined in this act. That is, they should be a State or municipal subdivision thereof or public-service corporation or public-service agent of the State. Otherwise a lessee might use the leased product for transmission and distribution for public service and not be subject to the same regulations as grantees using power under their own developments under this act. Moreover, any such lessee should have complied with the laws of the State under which it operates. Such leases should be made on terms which the War Department shall deem for the best interests of the United States. As between contesting applicants that applicant should be preferred whose plans are best adapted to utilize the navigation and water-power resources of the entire region in question. These provisions are consistent with the general purpose of the act. In some instances navigation improvement can not be made at the sole expense of the Government because it requires an investment out of proportion to resulting benefits. On the other hand, the investment required for combined water-power and navigation improvement might, on account of physical conditions, be too great per horsepower produced to permit development as a water-power proposition. Where the Government owns navigation dams it can diminish the cost by leasing surplus water power. In other cases it may, as part of the lease of the possible surplus water power, provide for contribution by the water-power investor to the original cost of construction, in addition to a rental charge. Where the work is primarily done by the Government and at its cost and maintained and operated by the Government, the surplus water-power should be leased in the open market on the best terms obtainable. Artificial competition should not be created by the Government by providing that its surplus water power should be leased to one class of applicants, with undue preference as against another class of applicants. The water power should not be allowed to be used as a means of unjust discrimination and of subsidized competition and disadvantage to private investors whose cost of production and whose rates of charges are governed by the ordinary conditions of the market and by the law of supply and demand.

5 "SEC. 11. That this Act shall not affect the rights of
6 any person or corporation as to the construction, mainte-
7 nance, or operation of any structures heretofore constructed
8 or upon which construction has been begun, under permit

9 or approval of the Secretary of War and Chief of Engineers
 10 or other authority heretofore lawfully granted: *Provided*,
 11 that upon application by any corporation having the
 12 capacity of grantee as herein defined, which is now con-
 13 structing or operating a dam and accessory works in navi-
 14 gable waters of the United States under authority heretofore
 15 lawfully granted and upon approval of such application and
 16 the issuance of the permit herein provided by the Secretary
 17 of War and the Chief of Engineers, the provisions of this
 18 Act shall become extended to such applicant.

Under permits heretofore issued in accordance with statutory authority the conditions of construction and operation binding upon existing developments are varied and therefore discriminatory. In many cases the conditions are not as favorable as they would be to those exercising rights under permits in accordance with this act. It would be inadvisable to compel previous grantees to submit to this new act; but it is only fair that those who have constructed and are now operating under previous grants or permits should have the opportunity, if they desire, to bring themselves, with all their rights of maintenance and operation, under the present act.

This section contemplates that upon application duly approved and under a new permit issued under the conditions of this act, present operators of water powers upon navigable streams may put themselves upon the same basis as grantees under this act. This conduces to uniformity in conditions, uniformity in regulation, and obviates undue inequalities which would otherwise exist.

19 "SEC. 12. That the works constructed and maintained
 20 under authority of this Act shall not be owned, leased,
 21 trustee, possessed, controlled, or operated by any device or
 22 in any manner so that they form part of or in any way effect
 23 any combination in the form of an unlawful trust or mo-
 24 nopoly, or form the subject of any unlawful contract or con-
 25 spiracy to limit the output of electric energy or in restraint

(15)

1 of trade with foreign nations or between two or more States
 2 or Territories, or within any one State or Territory, in the
 3 generation, sale, or distribution of electric energy.

Section 12, in connection with the requirement of public service capacity of the grantee under section 1 and the regulation of rates under section 7, presents adequate provisions against unlawful monopoly, restraint of trade, etc. With such provisions for regulation there is no basis for fear of undue monopolistic control or development of water power. Water-power development is peculiar. From its very nature it requires for economical operation the tying in of different plants, where possible, in order to supply demand at different periods of the day and at different points. The daily demand for electrical energy varies from a great maximum at one time of the day, the peak of the load, to comparatively nothing at another time of the day. The amount of demand is greatly variable. In any single stream, also, the amount of supply of water power varies with the quantity of flow, which by nature is greatly variable in different seasons of the year and in different localities. Economical operation of water power demands the least possible use of supplemental steam power. The necessity for the use of steam power at various times can only be obviated or diminished by the combination use

of different water-power plants. In this respect the hydroelectric business is peculiar. On November 23, 1911, the then Secretary of the Interior (Fisher) stated to the National Waterways Commission that in his opinion, there should not be any special provision in Federal permits against so-called combinations or monopolies. "I think," he said, "hydroelectric development is necessarily and should be essentially monopolistic in its character. * * * They should have the advantage of the control of the market and freedom from harassing and vexatious competition if we are going to put them under the disadvantages of effective public regulation." (Rept. 1912, National Waterways Commission, p. 186.)

This section is proper and sufficient as here worded.

4 . "SEC. 13. That the right to alter, amend, or repeal this
5 Act is hereby expressly reserved: *Provided*, That in case any
6 grantee hereunder shall, at the time of such alteration, amend-
7 ment, or repeal, have exercised rights in accordance with this
8 Act, such rights and the property used thereunder shall be
9 deemed property rights of such grantee, of which such
10 grantee shall not, until the time herein fixed for termination,
11 be deprived by such alteration, amendment, or repeal, and
12 then only upon the conditions provided in case of termination
13 by section six of this Act."

This repeal clause is manifestly drawn in a form consistent with the policy expressed in this entire measure. After it has been provided that the grantee shall be secure in his permit for at least 50 years, unless terminated for cause, and after the rights and obligations of the grantee have been fixed by the provisions of the act and by the conditions of the permit issued in accordance with the act, it would destroy the entire measure as a constructive, workable, remedial enactment, if an unqualified right of repeal, alteration, or amendment be reserved. It is no answer to say that water-power investors may rely upon the good faith of the Federal Government to protect their property rights and interests, or that no repeal, alteration, or amendment would be made or proposed which affected constructions already made. It was only recently that a measure was introduced into Congress proposing to put added burdens and restrictions upon the owners of the Keokuk Dam, which would involve great expense and this after the entire structure had been completed and put into operation, and after bonds for the financing of the enterprise had been issued to secure the payment of moneys paid in on the strength of the stability of the security and its freedom from added burdens. It is no answer to say that such a measure would not be favorably received in Congress. Investors shrink from the possibility of being compelled from time to time to fight for the maintenance of their rights for which they have depended upon the good faith of Congress.

The proviso in this repeal clause in no degree affects the right or privilege of Congress to change this general law or to make any special law with respect to any developments not already constructed. But after a permit has been issued and the rights and obligations have been made definite and construction has been completed or begun in good faith, then the rules of the game should not be changed. If a new game is to be started the question is different, but constructions already made or begun and investments already made on the faith of the specific rules and conditions should not be subject to arbitrary changes.

This repeal clause as here worded is necessary in order to protect the public interests, including a businesslike assurance to the private investor.

**SUMMARY OF AMENDMENTS SUGGESTED BY
ROME G. BROWN.**

AMENDMENT No. 1.

On page 4, line 25, and page 5, line 1, amend section 2, paragraph third, subdivision (b), so as to read as follows:

That such grantee shall furnish power for the operation of the same free of cost when there is a surplus of power in excess of other consumers' demands and at cost when there is no such surplus. (See page 12.)

AMENDMENT No. 2.

Strike out in line 7, page 5, the words “, free of cost,” and insert after the word “same” in the line the following:

free of cost when there is a surplus of power in excess of other consumers' demands and at cost when there is no such surplus. (See page 12.)

AMENDMENT No. 3.

At the end of section 2 and after the word “grantee,” in line 19 of page 6, add the following:

As between contesting applicants for a permit hereunder preference shall be given to that applicant which, at the time of the issuance of such permit and under the laws of the State or States in which the dam is to be constructed, has become best qualified therefor and has to the greatest extent acquired rights and property necessary for the construction, maintenance, and operation of such dam. (See page 13.)

AMENDMENT No. 4.

In lines 2 to 5 of page 7, section 3, strike out the following words: “and in the use and operation of such navigation facilities the interests of navigation shall be paramount to the uses of such dam by such grantee for power purposes.” (See page 16.)

AMENDMENT No. 5.

In section 5, lines 8 and 9, strike out the words “completion of the structures provided for in such permit” and insert in lieu thereof the following:

completing and putting into commercial operation of the initial installation required by the Secretary of War and Chief of Engineers, as provided in section 9 of this act. (See page 17.)

**LEGISLATIVE
OBSTACLES TO THE IMPROVEMENT
OF NAVIGABLE RIVERS**

**AN ADDRESS DELIVERED BY ROME G. BROWN BEFORE
THE NATIONAL RIVERS AND HARBORS CONGRESS
AT THE TENTH ANNUAL CONVENTION HELD
AT WASHINGTON, D. C., DECEMBER 3-5, 1913**

LEGISLATIVE OBSTACLES TO THE IMPROVEMENT OF NAVIGABLE RIVERS.

NAVIGATION PROBLEMS THE WORK OF THIS CONGRESS.

It is assumed that the work of this congress is primarily the study of problems relating to navigation. Therefore it must be your purpose to discuss and, as far as possible, to solve in a preliminary way the many and complex practical questions of policy, of expediency, of engineering, and of law arising from the varied present and prospective problems connected with navigation improvement in this country. It must also be a part of your duty to eliminate the visionary and impracticable from those propositions and measures that are feasible from the viewpoint of wise policy, commercial practicability, and that give proper regard to the legal and constitutional rights of the Federal Government, of the sovereign power of the States, and of the property rights of individuals. This congress, let us assume, is never to become the mere advocate of one project nor of the policy of any partisan faction. It should be maintained as a means and an instrument of constructive progress, an incentive and aid to definite and concrete accomplishment of results, to the end that your well-considered conclusions may be presented to those in authority, legislative and executive, and that thereby specific and permanent results in the form of legislative enactment may be more wisely and more promptly attained.

Though without governmental authority, and therefore in a sense purely voluntary, your deliberations, conclusions, and recommendations will have weight and effect to the extent, and only to the extent, that they are the outcome of open and fair discussion by all parties and interests, carried on as in a judicial forum, uncontrolled either from the outside or from the inside by any particular cult, propaganda, or partisan influence of any kind.

You will demonstrate that conservation is not a mere fetich of visionaries, whose blind worship is performed only through stereotyped formulas of impracticable doctrines and policies, sounded, though they may be, in enticing phrases to catch the uninstructed popular ear; that it is not a cult of negation or obstruction, much less a mere propaganda of persistence in discredited policies against which the Nation as a whole and those now in authority, both inside and outside the legislative departments at Washington, have revolted.

Let me state at the outset that in the solution of the navigation problems of which I shall speak nothing will be accomplished

by the advocacy of either extreme view of Federal or of State right of control. I recognize the fact established by nature and by experience, and I assume this congress recognizes the same fact, that the primary use of our natural water highways is for navigation. And let me say further that I recognize, as I assume that this congress recognizes, the principle, established by the authority of all our courts, Federal and State, that the control by the Federal Government of our navigable streams is paramount to protect them from interference with their use for navigation purposes. This is a right of control which, under the law of the land, has been expressly reserved to the Federal Government, and as such it is paramount to that of the States. The solution of these navigation problems can be made only under a policy which has proper regard for both these two classes of jurisdictions and which, according to constitutional law, allows to each its proper sphere, force, and effect.

It remains for you to recognize and to declare the fact, that the cause of conservation can be worked out only by a fair, full, and proper recognition of the well-established constitutional paramount rights of control, belonging to the Federal Government in the interests of the Nation as a whole for the protection of navigation, of all the highway streams of the entire country, and by a recognition, at the same time, always subject to that defined Federal power of control, of the right of control, established as a basic principle of our system of Government, by the respective States of their internal affairs, of the lands, resources, and property rights within their respective confines, including the proper regulation of the business relations of their citizens, their property rights, and its incidents, contract rights, rights and obligations between producer and consumer, and the management and control of all intrastate transactions. A proper recognition and reconciliation of these sometimes apparently conflicting jurisdictions presents the only solution which will offer constructive progress in the conservation of our natural water resources. The problem of the conservation of these resources is a practical, workable problem, susceptible of feasible constructive solution, when it is made plain that conservation, as applied to the use of the waters of the streams of this country, navigable and unnavigable, both for navigation and water-power development, signifies not reservation from, nor restriction upon use, but the most immediate and extensive use possible, and that any restriction or postponement of their economical utilization is violative of the very essence of conservation.¹

¹ Proceedings of the fifth annual convention of Mr. Pinchot's conservation congress held at Washington, D. C., Nov. 18-20, 1913, where the fair advocacy of constructive policies and measures was prevented by an organized closure upon the expression of any proposition disapproved by Mr. Pinchot. His minority report, repudiated by the water-power committee and turned down by the committee on resolutions, was at the last moment forced to adoption on the floor of the congress after many delegates had left, and the entire Arkansas delegation had withdrawn in protest against the refusal to grant a hearing; also, "Conservation of natural resources," by F. N. Powellson, printed as S. Doc. No. 243, 63d Cong., 1st sess.; also the "Conservation of water powers," by Rome G. Brown, reprinted from the Harvard Law Review of May, 1913, as S. Doc. No. 14, 63d Cong., 1st sess.

THE THREE CLASSES OF NAVIGATION PROBLEMS.

The problems of navigation improvement in this country are, generally speaking, of three classes: (1) Those involving the improvement of the naturally slack water navigation facilities afforded by natural waterways; (2) the construction of artificial canals and waterways across or between natural watersheds; and (3) the improvement of navigation by dams at falls and rapids upon the natural river highways where navigability in fact is not afforded by nature and can be obtained only by dams with locks and other controlling devices.

Of these the first may be said to involve problems of the past, because for the most part they have been solved by actual construction or by feasible plans for the present and future covering all engineering and financing problems. The second class involves problems, now tentatively proposed, but which are, comparatively speaking, for development in the future. These include all varieties of plans for artificial canal ways, from those practical ones for connecting two inland lakes or streams for paralleling the Atlantic coast with a deep-draft canal, or for cutting of a \$50,000,000 canal across the upper portion of the Florida Peninsula to the visionary scheme recently proposed to make a modern artificial Venice of practically the entire State of Minnesota.

THE PROBLEM OF HYDROELECTRIC NAVIGATION DAMS BUILT BY PRIVATE CAPITAL REQUIRES IMMEDIATE SOLUTION.

It is the third class, however, which involves the practical, present, and pressing problems necessary to be solved before further substantial progress shall be made in the way of navigation improvement.

For this third class there are afforded by nature at every rapid and fall the elements necessary to work out a solution of all the problems involved, and with comparatively little or no expense to the Government itself. Nature presents at such points the only possible means of connection between the upper and lower portions of a natural water highway, and also supplies the undeveloped energy, ever present at the place where needed, to lift to any height whatever tonnage of freight may seek entrance or exit between the interior and the great ocean seaports.

The Federal Government has rightly spoken its assertion of navigation control when the Congress prohibited construction of private water-power dams in navigable streams without Federal consent. The development of electric science has made commercially feasible in many instances the development by the riparian owner of his water-power rights in navigable streams. In most instances development for navigation alone, whether by the Government or by private enterprise, is impossible as a financial problem on account of the prohibitive cost. Development of the

water power, however, by the private investor is such a hazardous and doubtful undertaking that, especially when there is added the burden of the navigation facilities, to say nothing of further burdens proposed, the present uncertainties make the situation prohibitive. These problems of this third class are to be solved only upon the basis of assistance and cooperation of private capital on the one hand and of the Government on the other hand, with concessions sufficiently liberal to attract private investment. They are to be solved, in other words, by a proper combination and cooperation between the public and the private interest—that is, by the construction of hydroelectric plants by private capital with the facilities necessary to promote and preserve navigation. The instance of the Keokuk Dam presents the method, and the only method, by which this class of navigation problems can be solved.¹

PRIVATE CAPITAL NECESSARY TO FINANCE THESE NAVIGATION IMPROVEMENTS.

The improvement of navigation at any rapid or fall involves the utilization of private lands and riparian rights, which generally are of great value, not only intrinsically for agriculture or other general purposes, but also on account of their special value as power sites. It also involves expensive construction and maintenance, including operation and financing, based not only upon initial expense, but the extreme hazards of the enterprise arising from the varied and uncertain physical conditions to which the structures are subject and the necessity of building up within the feasible limits of transmission a demand and market for the power produced. Temporary expedients, while for the time less expensive, are in the end comparatively a waste of money. The structures should be of the latest and highest class known to the science of engineering, sufficient or readily adaptable to all present and future needs. The history of the financing of such enterprises has been, and always will be, one of waste, so long as the only resources for improvement are understood to be the National Treasury. The most conspicuous features of development by the Government alone are the jealousies and rivalries of localities to get the most in the shape of appropriations, irrespective of any financial problem, of commercial feasibility, of practical necessity, or of the ultimate return to any locality, or to any interest, or to the people as a whole, from the actual investment involved. The candidate for Congress goes before his constituents upon the platform that he has obtained from the Federal Treasury appropriations for his particular locality greater than those of his predecessor, or greater than could be expected from his inexperienced contestant. Up in Minnesota

¹ Acts of Congress of Feb. 8, 1901, vol. 31, p. 764; Feb. 26, 1904, vol. 33, p. 56; Feb. 9, 1905, vol. 33, p. 712, Rept. No. 1050, by Mr. Adamson, from the Committee on Interstate and Foreign Commerce, 62d Cong., 2d sess., accompanying H. R. 25822.

there was recently completed actual construction of the upper of two once proposed navigation dams between the Twin Cities, and yet to-day, under the authority of a later Federal statute, the lower one of the two dams is under construction at double or more than the originally proposed height, by which it is planned to drown out entirely the present completed upper dam. As a result, the entire cost of the latter, a million dollars and more, will be charged as a purely loss account in the bookkeeping of the Government's finances.

Similar instances of waste from all parts of the country are shown by the records at the National Capital. The opportunities and practical demands for improvement of navigation which involve feasible construction and operation are so varied and so immediately pressing—improvements of the class requiring dams with locks at falls and rapids—that their financing by governmental construction alone would increase the national debt to proportions impossible to contemplate. Governmental resources are not adequate to supply investments even where some pecuniary return through navigation toll charges and revenues from the leasing of incidental water power would be assured. It is only in exceptional instances, comparatively few, that the Congress could be induced to make the necessary improvement, even with the assurance of an adequate return as from a purely financial enterprise. On the other hand, millions of private capital are ready to make in all parts of the country navigation improvements as a concession to the Federal Government if only private investors are not arbitrarily forced to yield up to the Government and for its benefit an undue proportion of their investment and of their revenues, in addition to accomplishing the navigation objects for which the Government has specific supervision, if the enterprise as a whole can be made commercially feasible, and if conditions and restrictions and uncertainty with reference to conditions and restrictions are not so unreasonably imposed as to create an unsurmountable hazard and menace to financial success.

EXAMPLES UNDER THE FORMER POLICY OF COOPERATION BETWEEN THE GOVERNMENT AND PRIVATE CAPITAL.

Take, for example, the Des Moines Rapids upon the Mississippi River. Prior to June 30, 1912, the United States Government spent at this point for inadequate navigation facilities for boats of small draft \$1,458,103. Its entire expenditures for strictly navigation improvements upon the Mississippi River between the mouth of the Missouri and St. Paul prior to June 30, 1912, amounted to \$12,184,987. Adequate improvements at Government expense for the navigation past the Des Moines Rapids had been repeatedly refused under recommendation of the Government's engineers, not upon the ground of lack of desirability or necessity, but because of the expense necessarily involved.

Since the year 1910, however, acting under authority of an act of 1905, the Mississippi River Power Co. has expended as a private investment \$21,000,000 at the Des Moines Rapids and has constructed and now operates at Keokuk, free of tolls to the public and free from expense to the Government, a navigation dam with locks of deep draft—a navigation structure which has not a rival in the whole world. All that the United States Government has done to bring about this wonderful accomplishment has been the giving of the consent by the Congress that private investors may go upon the bed of the stream and expend in three years double the amount of money that the United States Government has ever been able to expend upon the entire Mississippi River for navigation purposes above St. Louis, and to say by the same act that the Government would accept the tribute and gratuity from the private investor involved in the expense of initial construction and perpetual maintenance and operation of perfect navigation facilities at this point. But these are only a small and incidental advantage which this policy of the Government, adopted by Congress and acquiesced in by the executive departments up to and including the year 1905, brought to the people of the Mississippi Valley, and indirectly to the people of the whole Nation. The potential undeveloped energy, equivalent to the annual consumption of 5,000,000 tons of coal—the energy which has been heretofore for centuries constantly present and wasting—is now conducted to three different States to operate existing industries and to build up others. No more significant example of the practical application of the true principles of conservation could be cited than this, where the natural navigation resources of the country have been conserved by prevention from waste, the water-power resources of the country have been prevented from waste, and at the same time unnecessary and wasteful using up of coal energy has been diminished. A double and triple economy has been brought about. A constructive, feasible, progressive policy of conservation has been followed, with resulting advantage not only to the Government itself, but to the entire people whose interests it is supposed to represent.

The total money expended by the United States Government on the Tennessee River and its tributaries for navigation improvement from the first appropriation in 1827 down to date has been \$11,676,531, and yet there remained unimproved long stretches of the river broken by falls and rapids at points where navigation development by governmental enterprise was deemed impracticable on account of the cost. Yet the other day the construction was completed and there was opened for operation a complete modern hydroelectric navigation dam, built under an act of 1905 by private enterprise at an expenditure of \$9,000,000, of which sum two-thirds may be fairly said to be applied to the governmental facilities of navigation. The new dam at Hales Bar, and the industrial development arising from the water power assures untold

advantage, present and prospective, to the people of that locality. It means industrial growth, together with the double and triple economy of the natural resources of energy.

The situation in Alabama speaks loud against the present policy of stagnation in improvement. There is a State with its great natural highways only crudely developed. The Coosa-Alabama River stretches from the Mobile Bay, a natural highway for the commerce of the entire State and that of Georgia, to its upper waters in Georgia, naturally navigable through all its parts, except over a distance of about 100 miles through which its drops with a 300-foot fall to the lower Gulf level at Wetumpka, Ala. Various plans have been proposed to connect with navigation facilities these two navigable portions of the river. Improvement by the Government has been held impossible on account of the prohibitive cost, and a report from the United States engineering department, only recently made, has advised the impracticability of improvement at Government expense. In view of the other drafts upon its Treasury for navigation improvement, the Federal Government since the year 1876 has been able to expend upon the Coosa River for navigation improvement only about \$1,500,000. Theory and experience have demonstrated that navigation past the falls above Wetumpka can only be accomplished through the aid of development by private capital. Under an act of 1907, just before the present obstructive policy began its sway, a private enterprise is building a combined water-power and navigation dam at Lock No. 12, one of the several improvements necessary to navigate the falls. It is completing a hydroelectric and navigation dam without expense to the Government at a cost exceeding \$2,300,000, an amount far in excess of the entire sum heretofore spent by the Government upon the entire river.

INSTANCES OF OBSTRUCTED ENTERPRISES UNDER THE POLICY EXISTING SINCE ABOUT 1907.

Under the dam acts prior to 1899 the Federal right of control of highway streams for navigation purposes was protected by the provision that private structures in the beds of such streams should be built under plans approved by the War Department in such a manner as not to interfere with their use for navigation purposes and with the power of removal by the Federal Government whenever they should become an instrument of such interference. By the act of 1899 such structures were prohibited until Congress by an express enactment should have given its consent; and by the act of 1906 there was added the provision that in approving the plans the Chief of Engineers and the Secretary of War might impose such conditions as they deemed necessary to protect present and future interests of navigation, including the construction by private owners of locks and the furnishing of power to operate the same.¹

¹ Act of Sept. 19, 1890, 26 Stat. L., 426; act of July 13, 1892, 27 Stat. L., 288; act of Mar. 3, 1899, 30 Stat. L., 1121; act of June 21, 1901, 34 Stat. L., 386; act of June 23, 1910, 36 Stat. L., 593.

Under the policy existing prior to 1906 the cooperation between the Federal Government and the private investor was provided with reasonable consistency, with proper regard for the interests of the public upon the one hand and for the protection of the private investigator upon the other hand. It was and always has been for the Congress to say to what extent the Federal Government should exercise its power of supervisory control in the interest of navigation. So far as the voice of Congress, which is the only constitutional power in this matter, had been permitted to be enforced, private capital had been ready to cooperate with the Government in these much-needed improvements. Following the year 1906, however, there appeared a policy of an Executive who assumed legislative functions, and who, disregarding the law and the will of Congress, arbitrarily obstructed the enforcement of laws promotive of the development both of industry and of navigation. President Roosevelt vetoed the bills for hydroelectric navigation improvement upon the Rainy River and upon the James River, and announced a policy, violative of constitutional provisions, of exacting substantial toll and tribute from private enterprises as a condition to the necessary congressional permit for the construction of a hydroelectric plant in a navigable stream. From that time on he and his successors in this obstructive policy, which ignores the property rights of States and of individuals and violates the rights reserved to the Federal Government by the Constitution, have stood as obstructionists to the carrying out of the present needs of improvement of our navigable streams for navigation and water-power uses.¹ For something over six years there has been practically no hydroelectric development on the navigable streams of this country under any Federal consent granted within that time; and this, too, although within the same period the science of economic hydroelectric development has progressed more than during all the years preceding. Millions of capital, representing various and competing interests, have been and are still ready, upon reasonable and businesslike terms and conditions, to develop the natural resources of our highway streams, both for power as a private business investment and for navigation as a concession to the general public interest. Not only have such improvements, the only feasible improvements for navigation, been stopped in this country, but, impatient at the delay, discouraged by the insistence upon impossible burdens and the threat of further restrictions, charges, tolls, and tributes, investors and their capital and all the industrial development which they signify have been driven to other countries, not only to Canada but even to Norway.

¹ Report of Senator Bankhead on Coosa River bill, S. 7343, 62d Cong., 2d sess., and document entitled "Federal Control of Water Power," being papers submitted to the Committee on Commerce, Senate, 62d Cong., 1d sess.; also, "Limitations of Federal Control of Water Powers," by Rome G. Brown, argument before National Waterways Commission, S. Doc. No. 721, 62d Cong., 2d sess. Report of Subcommittee on Dams and Water Powers to Committee on Interstate and Foreign Commerce, House of Representatives, 60th Cong., 2d sess., Feb. 25, 1909.

It was this obstructive policy that forced the passage by Congress of the inadequate, indefinite dam act of 1910. It is these obstructionists who have prevented construction, even under the drastic terms of the 1910 act, for they have insisted upon adding to the burdens and uncertainties of that act as a condition for the investment of private capital in navigation improvement. Investors, principally foreigners, who relied upon the enforcement in good faith of the statutes regulating dams built by private investment, proposed to furnish the necessary capital for the construction of a hydroelectric navigation dam at Lock No. 18 upon the Coosa River. The construction by a private company under the terms offered by the now noted Coosa River bill would save to the United States an initial cost in its navigation expense of over \$1,600,000. Assuming the cost of money at 5 per cent, this would mean annual tribute by the investor for the benefit of the Government of over \$80,000. Add to this the extra expense of maintenance, renewal, and operation and the annual tribute would amount easily to \$90,000. This would be a tax or toll upon the 10,000 horsepower of energy producible of \$9 per horsepower per year. With such burdens the practicability of the enterprise as a means of financial investment was so doubtful that many investors originally contemplating participation withdrew. Congress had all the facts before it, and considerately and deliberately, in the exercise of its discretion, granted the permits. But through the influence of the extreme obstructionists, who misrepresented the facts, the executive department at Washington was prevailed upon to veto the bill, because further definite charges and further indefinite provisions for still further charges were not made conditions of the permit. The will of Congress was thwarted under the cry of "conservation," and, in the same name, its enactment is to-day heralded as an "indefensible" measure.

Let us see what sort of conservation was denoted by that veto. It prevented or postponed for a long period the development of ship transportation along the natural waterways of two great agricultural and manufacturing States. It deprived the Government of a benefit amounting to \$9 per horsepower produced at the development by the private investor. It means that our limited coal resources are still unnecessarily being diminished to the extent of over 150,000 tons of coal annually, which energy might otherwise have been replaced by water power which is still running to waste. More than that, the depleted fertility of the soil of the Alabama farms would have been renewed in the locality of the manufacture from the air of nitrate fertilizers, for the making of which the proposed water power was practically all to be used, and which through cheap water power afforded there by nature could be marketed at much less than the cost at which it is now imported from the factories run by foreign water powers. The principle of conservation of the soil and of every natural resource was violated. Thanks to this policy of obstruction, there is not

to-day in this country a factory producing the newly discovered nitrate fertilizer, which, through the use of water power, may be produced from the atmosphere; and industries for its manufacture have been driven to Canada and to European countries to build up foreign industrial development and to enhance the cost of conserving soil fertility in this country. Abroad there are to-day over 1,000,000 hydraulic horsepower utilized for the fixation of nitrogen from the air for use as fertilizer in the form of nitrate of lime. At one point in Germany a factory which produces annually 20,000 tons of nitrate of lime sells its entire product within a radius of 100 miles of its factory; and the farmers who use it testify that it increases their crops threefold.¹

There are to-day in the streams of this country, developable as a commercially feasible proposition, but undeveloped through fear of private capital for its investment, 20,000,000 horsepower of water power, a waste of energy equivalent in amount to that afforded by more than half of the total annual coal consumption.

The defeat of the Coosa River bill for a navigation dam at Lock 18 was an obstruction of a wise and practical conservation, caused by the interference of those extremists who stand for unlimited Federal control. The case of the veto of the Dixie power bill for a navigation dam upon the White River in Arkansas was different. That measure may be rightly said to have been defeated by an overinsistence of the extreme view of the State right of control reflected in the bill itself, for it provided for the ultimate turning over to the State of Arkansas the navigation improvement in question, together with its control, thereby failing to recognize the established right of Federal control for navigation purposes. It was on the ground of this defect that the bill was vetoed, although even without these defects the then extreme view of Federal control would have caused its veto because it did not contain certain illegal and unwise provisions for toll and tribute out of the proceeds of the private investment.

On the Connecticut River, at Enfield Rapids, located between Hartford, Conn., and Holyoke, Mass., in a thickly settled portion of the country, where the demand for power is instant and unlimited, the Government has never been able to provide adequate navigation facilities. Its policy of inaction in the past demonstrated that without the aid of private capital neither navigation facilities nor the utilization of the wasting water power would ever be accomplished. A private company asked of the Congress of 1912-13 that it be allowed, free of expense to the Government, to furnish adequate navigation facilities, with up-to-date structures sufficient for present and all future requirements of navigation, as a consideration for a permit to construct a hydro-

¹ Report Senate Commerce Committee on bill 7343, 62d Cong., 2d sess. Veto message of the President on the same bill compare opinion of Secretary of War Taft in Desplaines River matter, Feb. 23, 1907, report House Committee on Interstate and Foreign Commerce, Feb. 25, 1909, 60th Cong., 2d sess.; also, address by Frank S. Washburn on "Agricultural Fertilizers from the Air in Relation to Water Power Development," before Fifth Annual Convention of the Conservation Congress, held at Washington, D. C., Nov. 28-30, 1913, printed as S. Doc. No. 257, 63d Cong., 2d sess.

electric navigation dam which would carry slack water navigation between two States, and it proposed to maintain and operate the dams and necessary locks for all required purposes. The investment in this instance was so attractive that the private owners would have consented to pay to the Government tolls from their revenues rather than to have lost the investment. Through the influence of the then Secretary of War the payment of tolls was insisted upon as an ultimatum for the approval of the measure by the executive department of the Government. The accomplishment of the enterprise was prevented through the delay arising from the controversy over the question of tolls. The Senate, however, by a vote of more than three to one declared its opposition as a matter of principle against the reservation to the Federal Government of tolls and charges out of the revenues of the water power developed by private investment.¹

On the Columbia River in Washington a feasible navigation and water-power improvement would make navigable rapids and falls to a height of 80 feet and would extend the already 400 miles of navigability above its mouth to the fruit-producing plains of Wenatchee and make navigable the entire river from the Pacific Ocean to the Canadian border. A hydraulic navigation dam sufficient for these purposes could be constructed at a cost of approximately \$20,000,000, a sum which the Government would never expend upon such an improvement, but which private capital stands ready to invest because the resulting power would amount to over 300,000 horsepower. Besides affording, free of cost to the Government, all necessary navigation facilities, it would furnish the power and water to reclaim over 150,000 acres of soil composed of volcanic ash, unirrigated and unproductive, situated 400 feet above the level of the river. The reclamation would be not for the benefit of a speculative enterprise but for the 1,000 and more bona fide settlers who have taken up the land and who have long been waiting for the necessary irrigation to cultivate. The money for this improvement has been ready for years. A congressional permit for the improvement is necessary, because it is upon a navigable stream, but no permit would be accepted burdened by the present uncertainties of tenure and of restrictions and hazards now threatened to such investments. In the meantime the natural resources of soil, power, and commerce, which could otherwise have been long since utilized, are suffering a waste which can never be recouped.

The Long Sault Development Co. stood ready up to about a year ago to invest \$50,000,000 in improvements for navigation and power uses on the American side of the St. Lawrence, near Massena, N. Y. Against this enterprise the propaganda of obstruction threw itself, with the result that no possible working conditions could be obtained. At a sacrifice of over \$1,000,000 spent

¹ Majority and minority reports United States Senate Commerce Committee, No. 1131, 56th Cong., 3d sess.; also article in *Case and Comment*, March, 1915, "Who owns the water powers," by Rome G. Brown.

in engineering and promotion that company has now abandoned the proposed enterprise forever, and instead is now constructing upon the unnavigable reaches of the Tennessee River, under State encouragement and State control, water powers for the manufacture of aluminum products. It has chosen the more expensive, but more secure, investment, safeguarded by the cooperation of the State of Tennessee.¹

As against utilizing the wasting powers upon the navigable streams of Alabama and Tennessee the French Aluminum Co., driven from the large water powers of the navigable streams by fear of the existing conditions of uncertainty and of hazard to investment under Federal supervision, has chosen to expend its \$5,000,000 and more of capital in hydroelectric developments upon the Yadkin and other small streams in North Carolina and to keep its investments free from the present announced uncertainties of Federal control. For the same reasons developments have been made upon the small streams of Georgia and other parts of the country, and thousands of miles of transmission lines carrying light and energy have artificially built up new empires of industry in the remote country districts adjacent to the small streams, while the natural facilities for navigation improvement and the latent energies of the large highway streams are wasting from nonuse.

PRESENT OBSTACLES NOT EASILY REMEDIED.

The main obstacle, then, preventing improvement of the natural water resources is the present legislative discouragement of private investment. The legislative policy at present enacted, as well as proposed, must from its very nature and as demonstrated by experience has driven capital not only to the smaller streams free from Federal interference but to the large navigable streams of foreign countries. These legislative obstacles are of two classes: (1) Statutory restrictions, together with the present policy, or lack of policy, with regard to their enforcement; and (2) the persistent advocacy of further restrictions and burdens upon development by private capital, which make private investors halt for fear of returns ultimately insufficient and for fear of an entire loss of investment.

But this is not all. The very abuses of action and abuses of inaction which have been practiced by the Federal Government, through its Congress and its executive departments, have demonstrated to investors the possible insecurity of any investment made or to be made under Federal control. It has made them distrustful as to the exercise of any discretion left to any Federal legislature or department. The considerations involved are similar to those governing any business transaction. The first require-

¹ Report of hearings on the St. Lawrence River near Long Sault, N. Y., on H. R. 33219, 61st Cong., 3d sess., and H. R. 1453, 61st Cong., 2d sess., before House Committee on Rivers and Harbors, 61st Cong., 3d sess.; also report No. 2032 from Committee on Rivers and Harbors accompanying H. R. 32219, 61st Cong., 3d sess.

ment is that of a feeling of confidence and good faith the one party with the other, and that, too, independent of the precise written terms of the instrument which purports to govern their respective relations. You may to-day pass an act of Congress which by its written terms provides in every detail business-like safeguards to these private investments which are to be made under Federal consent. It will take a long time, however, to restore that confidence in the good faith of Federal administration which is necessary as an inducement to every transaction involving the investment of capital; to restore that confidence shattered by the vacillating and contradictory administrative policies of the past six years or more which have marked this stagnation in navigation and water-power development upon navigable streams.

The crux of the difficulty is this: Our system of government contemplates a power of legislation by Congress limited by express reservations written into the Federal Constitution. Controversies, therefore, with regard to Federal enactments have too little regard for the questions of expediency and of the rights of control and of property belonging to the respective States or to individuals. The tendency is to assert, by subterfuge and indirection if necessary, the utmost power on the part of Congress which may be read into the fundamental law defining that power. The efforts of extreme factions at times seem to be to demonstrate not their notion of right or of expediency, but by legislation to announce a doctrine that Congress can not be prevented from doing this or that thing. It is the too prevalent notion that, if in fact there is a power to do, that power should be exerted to its utmost. Questions of expediency and business policy and due regard for logically constitutional rights are overshadowed by the greed for the exercise of power as such. In a jurisdiction where the legislative power is unlimited by written fundamental law, and where the wise discretion of the legislature when enacted into law is at once the law and the constitution, it would be abhorrent to propose even before a legislative body or committee many of the measures which are proposed and urged in our Federal Congress relating to the uses of water—abhorrent as obstructive to industrial development, as confiscatory of the rights of States and of individuals, and as a usurpation by Federal interference.

Let us, then, discuss present and proposed legislation with a view to arriving at a wise policy, consistent with practical expediency and with the working out of a really progressive, constructive, feasible plan of legislation which shall cure the present faults and insure in the future the businesslike cooperation of private capital without which the utilization of our water resources can never be accomplished.

THE INSUFFICIENCIES OF THE PRESENT DAM ACT.

The dam act of 1910, which now governs the granting of permits for dam structures upon navigable streams, was a compro-

mise measure intended to satisfy, so far as possible, the demands of the advocates of extreme Federal control as to restrictions to be placed upon the private investor. It assumed too much that the required power of consent by the Congress was an arbitrary power for all purposes and that any investor in an improvement upon a navigable stream should place his entire capital at the whim or caprice of the Federal Government, or of its representative departments. Besides providing that the structure plans shall be approved by the Secretary of War and the Chief of Engineers, it gives those department officers the power, as a condition of such approval, to impose charges, indefinite and unlimited, sufficient to allow the Government to restore without expense the natural condition of the river whenever the structure shall be deemed an obstruction to navigation. It further provides for charges, also indefinite and unlimited, for any benefit which may accrue from head-water improvements operated by the Government, and also generally that any conditions, of whatever kind, may be imposed at the discretion of the same departmental officers, which they may deem protective of the interests of navigation. It limits the period of the permit for 50 years without any provisions for renewal or for compensation at the end of that period to prevent ruin or loss to the grantee. It provides that the private investor shall construct, maintain, and operate locks, booms, sluices, etc., for navigation, and other locks and structures afterwards deemed necessary for navigation, and that Congress may at anytime arbitrarily revoke the permit upon paying merely the then reasonable value of the structures. This act has been universally condemned by practice and by experience. The National Waterways Commission in its latest report says with reference to these provisions:

Experience has shown that these provisions are not well suited to encourage development of water power or to protect the public interest. Nothing is more discouraging to the investor of capital than uncertainty. * * * The necessity of amortizing the plant, in addition to all other costs of rendering the services, will inevitable result in an increased charge to the consumer, which amounts to a tax of doubtful equity on the local community for the benefit of the General Government. This unnecessary burden could be avoided if Congress would enact legislation providing for a more equitable form of franchise.¹

Various attempts have been made to remedy the defects of this act of 1910, but such attempts have been prevented by the intervention of those who would add further burdens and uncertainties. These obstructive interveners have not allowed the Congress, to whose discretion within reasonable bounds is left the determination of these questions, to grant permits, even under the drastic provisions of this act of 1910. Such attempts as shown in the instance of Coosa River bill have been thwarted by the influence of the supernationalistic idea urged by those pseudoconservationists who would extend the Federal right of navigation control to

¹ Report National Waterways Commission, S. Doc. No. 469, 62d Cong., 2d sess., p. 54. The "Conservation of Water Powers," by Rome G. Brown, reprinted from the Harvard Law Review of May, 1913, S. Doc. No. 14, 63d Cong., 1st sess. "Water Power in the United States," by M. O. Leighton, Chief Hydrographer of the Geological Survey in "Annals" of Am. Ac. Pol. and Soc. Science, May, 1909. Report of Commissioner of Corporations on Water Power Development in United States, Mar. 14, 1912.

the practical ownership by the Federal Government of all State and private rights in streams and their beds and to the direct Federal control, both as to interstate and intrastate transactions, of persons or corporations engaged in these improvements as a condition precedent to the consent of the Congress for a hydro-electric improvement upon navigable streams.

AN OBSTRUCTIVE LEGISLATIVE PROPAGANDA.

An obstructive propaganda manufactures an artificial public sentiment against some particular interest, or against business interests in general, by the use of stock phrases about monopoly, speculation, trusts, and charges of undue cost to the consumer. It is such a propaganda, advocating proposed legislative measures even more stringent and more burdensome to the private investor than those now existing, which, more than any other thing, has created legislative obstacles to the improvement of navigable rivers.

The present extended period of stagnation in the improvement of our highway streams for navigation and water-power uses, caused by the refusal of private capital to risk investment necessary for its required cooperation with the Government, is, more than any other thing, the direct result of the persistent advocacy in public and in private of that discredited policy of past administrations—that policy against which both the people and their representatives in Congress have declared open revolt. It is the doctrine of absolute and unlimited Federal control of the undeveloped water powers as directly or indirectly the property and resource of the Federal Government itself; of the turning over to the Federal Government by indirection those rights of control and of property which by the law of the land have been established as belonging to the States and to the individual citizens of the States. It is the mistaken, unpractical, extreme idea with which a certain class of agitators are obsessed, and in the furtherance of which bureaus of misinformation are conducted. They may temporarily gain favor with unthinking people by their obstructionist cry of monopoly, speculation, and their advocacy of added burdens, restrictions, and charges upon the private investor. Theirs is merely the stock phrase-making arguments against private capital. It is the socialistic argument of centralized, paternalistic control. But ours is a Government of expressly limited Federal power, subject to which all other powers of control are left to the States, and subject to which the property rights of States and individuals upon navigable streams are fixed by the law of the States as pronounced by the State courts.¹ These obstructionists are blinded by the fallacious notion that proper regard for the protection of private investors,

¹ *St. Anthony Falls Water Power Co. v. Water Commissioners*, 168 U. S., 358, and other cases cited in "The Conservation of Water Powers," *supra*.

especially in their relations with the Federal Government, is a heresy of conservation, and that the reservation to that Government of the utmost possible of profit and advantage is of the essence of conservation. Through the hue and cry raised by them the water resources of this country are left running to waste, and conservation in its own name is made to defeat itself.

THE HUE AND CRY ABOUT SPECULATION AND MONOPOLY.

Great stress is laid by these agitators upon the claim of "speculative holdings of undeveloped water-power sites," and their increase by a large percentage over the holdings of developed powers during the last five or six years.¹ They shut their eyes to the cause of the lack of development during the same period. It is the distrust and feeling of insecurity, undue financial hazard, and the lack of confidence in Federal control, disseminated by these very agitators who set up a hue and cry about speculation and monopoly, that has rendered impossible the financing of these developments and has kept undeveloped and running to waste the million and more of horsepower of water power in Alabama and other States appurtenant to sites held for development as soon as reasonable terms could be obtained.

Nor is the cry of "monopoly" in this question of water-power development by private capital anything more than an artificial bogey to advertise obstructionist argument. The facilities for water-power development are isolated, and each development itself is by nature essentially monopolistic. Economy of operation and adequate service to the consumer require the tying together of different plants so far as possible. As late as November 23, 1911, the then Secretary of the Interior Fisher stated to the National Waterways Commission that, in his opinion, there should not be any provision in Federal permits against so-called combinations or monopolies. "I think," he said, "hydroelectric development is essentially and should be essentially monopolistic in its character. * * * They should have the advantage of the control of the market and freedom from harassing and vexatious competition if we are going to put them under the disadvantages of effective public regulation."²

All danger of disadvantages from speculation or monopoly can be easily obviated by a provision requiring that after a permit is given developments shall progress, under the direction of the Secretary of War or other proper authority, with reasonable promptness, and consistently with market demands and economical operation.

The opposition to constructive progress of the development of industries dependent upon water power has not been so much within Congress as from without. The persistence and activity of these obstructionists have been directed to the prevention of the carrying out of the true principles of conservation.

¹ Majority and minority reports of the water-power committee of Mr. Pinchot's conservation congress, fifth annual convention, held at Washington, D. C., Nov. 18-29, 1913.

² Report, 1912, National Waterways Commission, 186.

THE CHANDLER-DUNBAR DECISION.

It has been claimed by certain extremists that the recent Chandler-Dunbar decision¹ is "epoch making," that it turns over to Federal control all the rights heretofore claimed to belong to the respective States and to private riparian owners in the beds and waters of navigable streams, and that in the case of even a private hydroelectric navigation development it authorizes a charge and toll out of the revenues of the investor for the benefit of the Federal Government. On the contrary, this decision confirms the law of control as theretofore established. It confirms the recognized paramount right of the Federal Government to regulate navigable streams in the interests of navigation. It confirms the right of the Congress to pass and to enforce the act of 1909, asserting the necessity of entire control in the interests of navigation of the straits of the Sault Ste. Marie in order adequately to protect the navigation between the two great inland seas through which the yearly tonnage exceeds by far that of the Suez Canal. That decision was neither an assertion nor authority for an assertion upon the part of the Federal Government of the unlimited Federal control for all purposes of the highway streams of the United States.

THE SECRETARY OF WAR SHOULD BE AUTHORIZED TO GRANT PERMITS.

One of the obstacles of existing legislation is the requirement that for each particular hydroelectric navigation improvement on streams affording interstate navigation, even though requiring no outlay by the Government itself, a special act of Congress is required. But there is no reason, in cases requiring no appropriation by the Government—that is, where the improvement is to be made at the expense of the grantee—that all rights and interests of the Federal Government, of the public, and of the private investor can not be adequately safeguarded by a general act asserting general provisions for control and regulation and giving to the Secretary of War the power to grant permits subject to such act. The same legislative conditions would govern any permit to be issued, and would include protective provisions in general terms sufficient to cover any particular instance, except those involving purely engineering problems. It is unnecessary and even absurd that the technical engineering problems, decisive of the issuance of each particular permit, should be thrashed out before the committees or on the floor of the National Congress. They should be left, as in other similar instances, to the investigation and decision of that department having jurisdiction thereof and especially qualified to hear and determine the questions involved. Subject, then, to the general conditions which Congress may provide as necessary to protect the Government and to attract private investment, the

¹ The United States v. Chandler-Dunbar Water Power Co., 229 U. S., 53, decided May 26, 1913.

permit itself in any particular instance should be left to the War Department, with authority to solve all the engineering problems involved, and to compel a construction which shall be consistent with present and future navigation requirements.

REMEDIAL PROVISIONS SUGGESTED.

The present problems of navigation improvement can be solved only by a proper legislation, protecting the constitutional rights of the Federal Government and at the same time establishing a policy of attracting the investment of private capital. This should include such provisions as the following, defining the terms of the establishing of hydroelectric works on navigable streams as against the interests of the Federal Government:

(1) Indeterminate permits subject to revocation only for cause, or permits given for a definite term of not less than 50 nor to exceed, say, 100 years, varying according to the amount of investment per horsepower to be produced, unrevocable during the fixed term except for cause, otherwise only revocable after the expiration of the term, and in all cases of revocation upon compensation. Compensation must include the payment to the grantee of all his necessary investment for structures and building up his business which are a part of or appurtenant to his plant and enterprise, no value to be added for the Federal permit itself, and the assumption of all outstanding bona fide contracts made by the grantee.

(2) All structures affecting the flow to be made in accordance with plans approved by the Secretary of War and Chief of Engineers, in order to protect present and future navigation requirements.

(3) All permits to be only to States or municipalities, or to public service corporations, the regulation of whose corporate affairs, including rates, shall be left to the proper State authorities with power to Congress to intervene so far as necessary for adequate protection of the public.

(4) In order to prevent speculative holdings, proper provisions compelling the utilization of power facilities within a reasonable time after issuance of Federal permit.

(5) No tolls or fees except such as are necessary to cover the cost of service inspection, etc., directly chargeable to the exercise of governmental functions, but, as a recognition of the paramount right of Federal control for navigation, the grantee to provide to a reasonable extent, consistent with existing conditions, navigation facilities, including power for their operation.

GENERAL NOTE.

It is not intended in this discussion to suggest all the provisions necessary to remedy existing legislative obstacles nor to argue in detail for or against specific provisions, much less to formulate a

draft for a proper dam act. I present the following suggestions for consideration upon certain points necessarily involved:

Congressional authority should be general.—Final permit in the case of each development should be by the Secretary of War, subject (1) to the general provisions and authority of the general dam act and (2) subject to his approval of structural plans. Reasons therefor are above suggested.

Term of grant.—Logically the grant should be indeterminate, except for cause. But in any case of taking over by the Government, whether under indeterminate or a definite-term grant, provision for compensation should be made such as to attract private investment. If a definite term is preferred, care should be taken to provide adequate protection to private investment. A uniform limit of 50 years, while sufficient in some cases, would prohibit in many instances. Sufficient elasticity in the length of term should be provided to meet varying physical and market conditions. In a locality where industries are already developed or quickly developable the investor might be sure of adequate return on his entire investment from the beginning of operation. In other instances the investment in whole or in part might have to wait many years for a market to be built up within feasible limits of transmission, and thereby return on investment proportionately postponed. Amount of investment per horsepower produced varies widely. These and other reasons would make a 50-year limit attractive in one case and prohibitive in another. Proper adjustments as to length of term would meet the varying requirements for the necessary financing, and at the same time protect all public interests.

Compensation upon revocation.—The provision for compensation should include more than merely the then physical value of the plant. It should include all sums properly charged as capital investment. Legitimate expense and loss are incurred by investors from lack of return upon investment while waiting for a market, cost of building up a market and business, obsolescence, replacement, and added facilities by new structures and appliances to keep the service up to date and in accordance with the latest discovered methods of economical operation. These items of expense and loss can not be charged back to the consumer in a manner to protect the investor under a revocable permit. Compensation should include the amount of capital investment necessary to finance and carry these and other similar items. For similar obvious reasons compensation should not be confined to merely the water-power plant, but to the hydroelectric plant and business as a whole.

The contracts to be assumed should include all bona fide contracts for service or otherwise. Within a comparatively short period prior to the time allowed for revocation an advantageous contract for service might be obtainable if it could be made for a

term of years extending beyond the possible revocation, which could not be obtained if revocable itself within the limits of the term necessary to procure the contract. Also money required for financing represented by funded debt might not be obtainable, or only obtainable at excessive cost, if the property and business for which it is security is to be revocable. So far as bona fide, contracts for such payment of money should be protected. Of course their assumption would be charged as part of the compensation to be paid on revocation.

Corporate capacity of grantee.—If the grant is not to a State or municipality it should be only to a public service corporation properly organized with authority to carry on a hydroelectric public service business. This would insure authority for regulation not only of rates but of the financing and general control of the grantee with respect to the conduct of its business and its relations with the consumer and the public in general. State control, so far as feasible, should be encouraged and have preference, with proper recognition of Federal right of control where necessary. If the grantee is a State or municipality, then as between such grantee and the Federal Government the provisions should be the same as when grantee is a public service corporation. The taking over of the plant and business on revocation should in all cases be reserved to the Federal Government, and thus the paramount right of Federal control for navigation purposes consistently preserved. The rights of State control would remain as established by law.

Speculative or monopolistic holdings.—On this point see more detailed discussion above. The provision, sometimes suggested, that transfer should not be made without special Federal consent, would not aid in preventing monopolistic tendency, if any otherwise threatened, while at the same time it would add a restriction tending to prohibit necessary financing. The suggestion for such restriction against assignment springs from the too prevailing tendency in these matters to overrestriction and to overregulation. This is not to say that they would not be legal and enforceable. The answer to such class of suggestions was best made the other day, when a well-known Senator, referring to certain proposed provisions for regulation, said: "That's the trouble with the present craze for restriction and regulation of private investment in these enterprises. You regulate and restrict to the extent that you have nothing to regulate." The point of his remark is shown by the refusal of private capital during the past six years or more, as outlined above, to cooperate with the Government in these enterprises under the now existing and threatened legislative obstacles to private investment.

Charges against the grantee.—No charges or rentals out of the investment or revenue of the grantee should be made as a tribute or toll to the Federal Government. This question has been thrashed out in Congress, and it is safe to say that no bill involving

this principle will be accepted. A license fee is legally allowable, although its expediency may be questionable. Such fee should be made definite and fixed by the Secretary of War when he issues final permit, and should be based upon the cost of inspection and actual service by the Government.

It is not expedient to provide that in all cases navigation facilities shall be provided and operated solely at the cost of the grantee. Such expenses should be borne by the grantee to such an extent as is consistent with the possible financing of his enterprise. In one case there is a high head, large flow, and physical conditions allowing construction at comparatively low cost per horsepower produced; in another case the cost per horsepower produced may be such that if the entire cost of navigation facilities are also placed upon the grantee the financing of the enterprise would be impossible. According, then, to varying physical conditions, the Secretary of War should, as a part of the terms of his final permit, apportion the cost of navigation facilities between the grantee and the Government in such manner as to insure all reasonable advantage to the Government in its navigation improvement without imposing burdens which would be prohibitive of private investment necessary to secure a double benefit to the public at large.

Charges against the grantee for benefits from headwater improvements by the Government should be provided in such terms as not to be made a cover for a tribute or toll out of the investment or revenues of the grantee in favor of the Government. Such charges should be confined to fair compensation for actual benefits received, to be apportioned among the several grantees receiving benefit from the same headwater improvement, and the total annual charge for the benefits to all such grantees derived from any one headwater improvement should not exceed a reasonable percentage upon the total investment cost to the Government of such improvement.

Repeal clauses.—Subject to the general provisions of a proper dam act and to the conditions of the permit issued under its authority by the Secretary of War, the rights left to the grantee should be viewed as rights of property and of contract; and such limited and defined rights should not be subject to confiscation by arbitrary repeal or amendment. Therefore, the repeal and amendment clause should protect the rights left to the private investor by proper provisions against any such arbitrary annulment or confiscation of such rights or of its property thereunder, except upon compensation as provided in the act.

CONSTRUCTION OF DAMS ACROSS NAVIGABLE WATERS.

LETTER FROM BRIG. GEN. W. H. BIXBY TO SENATOR KNUTE NELSON, MEMBER OF THE COMMITTEE ON COMMERCE, RELATIVE TO A COMMITTEE DRAFT OF A PROPOSED BILL TO COVER THE "CONSTRUCTION OF DAMS ACROSS NAVIGABLE WATERS."

Printed for the use of the Committee on Commerce.

WASHINGTON, D. C., June 3, 1914.

MY DEAR SENATOR: Some time ago you showed me a copy of Senate committee draft of March, 1914, of a proposed Senate bill to cover the "construction of dams across navigable waters," having in view the replacement of all existing acts on that subject by a single new act, and you requested my comments upon the same and my suggestions for changes therein wherever I might consider changes desirable. I have since seen a copy of comments of Mr. Rome G. Brown upon the same draft. I have also seen various House committee drafts upon the same subject.

In reply to your request I now send you a memorandum herewith of several changes which seem to me desirable, together with my comments upon the changes already suggested by Mr. Brown in his printed letter. I hope that some of these suggestions of mine may be found useful or interesting to you or to your committee in connection with the many other suggestions, based on the same or other points of view, which have probably already reached you from other directions.

I concur in general with the views outlined by the Secretary of War in his letter of February 19, 1914, to the House committee, and by Mr. Brown in his letter of March 22, 1914, to Senator Nelson, and with the views elaborated in the Senate committee draft; although we all seem to have some minor points of difference.

I assume:

(a) That the new act is intended not only to replace all former acts on this particular subject, but also where possible to be made comprehensive and broad enough (a1) to cover all water developments by dams, whether natural or artificial, and also (a2) to cover all benefits from such dams, whether the surplus water be used for power, agriculture, sanitation, or other manufacturing or domestic purpose.

(b) That one of the main objects of the act is to exempt Congress from the necessity of considering separately hundreds of routine cases

permit itself in any particular instance should be left to the War Department, with authority to solve all the engineering problems involved, and to compel a construction which shall be consistent with present and future navigation requirements.

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**AMENDMENTS SUGGESTED BY ROME G. BROWN IN HIS PRINTED
LETTER TO SENATOR NELSON.**

MR. BROWN'S AMENDMENTS NOS. 5, 6, 9, AND 10.

- (5) Page 5, line 3, after the word "furnish," strike out the words "free of cost."
- (6) Page 5, in line 4, after the word "same," insert the following words: "free of cost when there is a surplus of power in excess of other consumers' demands and at cost when there is no such surplus."
- (9) Page 5, line 15, strike out the words "free of cost."
- (10) Page 5, after line 15, insert the following words: "free of cost when there is a surplus of power in excess of other consumers' demands, and at cost when there is no such surplus."

MR. BROWN'S AMENDMENT NO. 19.

Page 7, line 13, after the word "grantee," add the following:

As between contesting applications for a permit hereunder preference shall be given to that applicant which, at the time of the issuance of such permit and under the laws of the State or States in which the dam is to be constructed, has become best qualified therefor and has to the greatest extent acquired rights and property necessary for the construction, maintenance, and operation of such dam.

MR. BROWN'S AMENDMENT NO. 26.

Page 8, lines 10, 11, and 12, strike out the following words: "and in the use and operation of such navigation facilities the interests of navigation shall be paramount to the uses of such dam by such grantee for power purposes."

MR. BROWN'S AMENDMENT NO. 29.

Page 9, lines 17 to 21, strike out the words "completion of the structures provided for in such permit" and insert in lieu thereof the following: "completing and putting into commercial operation of the initial installation required by the Secretary of War and Chief of Engineers, as provided in section 9 of this act."

WATER-POWER DEVELOPMENT.

[From address of Gen. W. H. Bixby, brigadier general and Chief of Engineers, Dec. 7, 1911, to the National Rivers and Harbors Congress.]

The water-power question has come up so prominently during the past year, not only before many State legislatures, but also before the Federal Congress, and there has been, in many cases, so much apparent misunderstanding of the general situation and so much apparent conflict of statements by the various parties urging, considering, reviewing, or passing judgment thereon, that I take the liberty of urging upon you great caution in accepting any statements which have not been carefully verified, and in advocating any legislation until after much further full discussion by engineers, reliable financial agents, and legislatures. The public in general and even many so-called technical experts are often very careless or inexact in both ideas and language in their consideration and discussion of water-power questions, and unusual care is necessary at the present time and until legislatures, Congress, and the courts have arrived at a reasonable agreement as to existing conditions, future needs, and legal possibilities.

Water powers are measured theoretically by a consideration of the volume of water available for use and its head or vertical distance through which it can fall during the generation of power. Practically, however, each water power is usually measured by its developed power, which is such proportion of its theoretical power as can be delivered to the middleman or to the ultimate consumer.

In order that a developed water power shall have any marketable value, there must be a demand for its use within a reasonable distance of the waterfall, and the cost of delivery of the power to the ultimate consumer must not exceed the value of the use to which it can be put nor exceed the cost at which equivalent power can be produced from any other material by other processes in that locality. In comparing valuations or rentals of water horsepowers, it is exceedingly important to distinguish between the theoretical horsepower at the crest of the dam, the horsepower when leaving the power house, and the horsepower when delivered to the consumer; as it is not at all impossible that the cost in the last case may be as much as one hundred times the cost in the first place. In some cases, water power has value when used intermittently, but in the majority of cases it is commercially useful only when its water supply, or at least its power delivery, continues practically constant and uniform. There are cases on record where it is estimated that the original cost of the acquisition of property and of the construction of water-power development works and distribution lines has been one or more hundred dollars per horsepower, and that a rental of power to the final consumer has been as high as \$75 per horsepower; while on the other hand there are cases where water is still running to waste over natural dams in large volumes, with over a hundred feet of head, because the supply of power to the ultimate consumer is already in excess of his demands and of his ability to use it; and there are some cases where \$75 per horsepower delivered to the consumer is fully as fair to both seller and buyer as 50 cents per theoretical horsepower at the crest of the dam. The above explains to a large extent the enormous difference in estimated values of water horsepowers or in the charges made for the rental of water horsepowers in various parts of the United States.

The ownership of water powers on existing streams, while a question of great importance, is still not at all uniform throughout the various individual States and, perhaps, not yet fully settled in the courts. As a general rule, all ownership of water and of its flow and of the land on the banks and bed of the stream, is vested in the owner of the adjoining land; and his rights, called riparian rights, are almost invariably regulated by the laws of the individual States concerned, except in unusual cases where the Federal Government is still the original owner of the adjoining land, having never ceded it to any individual State. As a general rule, the riparian owner has absolute ownership and control of all land above ordinary high-water mark, but only a limited control of the land and bed of the stream below high-water mark, and a limited use of the water. As a general rule, he has ownership and control of the water which reaches him and of the water power which may be developed within the limits of his riparian frontage by the use of the water flowing into his property from above while it drops from the level at which it originally entered

to that at which it originally left his property; this ownership being subject, however, first, to any losses which may come from the reserve by the United States of so much water as is needed for the public interests of navigation, and next, to his liability for any damages which he may cause to the riparian owners above him or below him by his use of the water. Where streams divide into several natural channels, the riparian water rights along each route are measured by the natural volume and fall of its water; and where water is diverted from its natural route through artificial channels in order to develop water powers, such water powers are subject to damage claims from all damaged riparian owners along the natural route from the point of departure to that of return of the diverted waters. In some cases, especially in States where water has been considered more valuable for irrigation than for water power, the ownership of the water has been by State laws given to the first users or appropriators of the same instead of to the riparian owners.

Except where the Federal Government is the original owner, as within the forest reserves under charge of the Department of Agriculture, or on other public lands under charge of the Department of the Interior, or where by special acquisition and act of Congress, as at Sault Ste. Marie, Niagara Falls, and some few special navigable streams under the Secretary of War, the Federal Government has not at present any absolute undisputed ownership of undeveloped water powers. But on all navigable streams and on those which affect navigation the Federal Government has a limited control of water and water powers, exercised by the War Department. As a general rule, throughout the United States, as in England, the public right to the use of a river for purposes of navigation to the extent deemed proper by the Federal Government takes precedence over all other rights; and the use and control of the water and of its flow within the river takes precedence over all other uses and controls. Where rivers are improved for navigation, the Federal water rights are therefore of two kinds: One that of the public right of navigation—that is, rights for everything necessary to allow free passage of boats through the river—and the other that of original or acquired ownership of riparian properties, which include water and water power, and rights of free access to the river at all stages, and of use of all land between high and low water mark when not naturally overflowed by the river. Under existing laws as enforced, whenever the Federal Government undertakes a river improvement it can, free of cost, use so much of the water and water power, and can occupy so much of the land within the river banks, as is necessary in the interest of navigation; but if it wishes to overflow land not actually overflowed by the river itself, or if it desires to occupy the bank of the river outside of ordinary high-water lines in such ways as to deprive the owner of his natural use of the same for landings, wharves, or other purposes, it must, in either case, pay damages therefor or acquire the property by purchase or condemnation. In all cases the riparian owner, whether an individual or the State or Federal Government, is considered to own the water power in proportion to his water frontage and to the original fall of the river within the same, and is considered to have the right to the use of water power so far as he can use it without injury to the public rights

of navigation and to the Federal constructions in improvement of navigation, subject to his giving to the United States a reasonable compensation for his use of the Government dam, or to his paying a reasonable share of the cost of securing and maintaining the pool level above the Government dam. Where, therefore, power is developed in navigable waters by the United States as an incident to navigation, the Federal Government always acquires a control of the water power, although it may not always obtain full ownership of the same.

The general dam act of June 23, 1910, recognized the fact that the ownership of power developed by dams constructed wholly at private expense is a matter for control by the individual States and not by Federal Government; the act directing that a charge be made by the Government only for such part of the total power as results from expenditures by the Government. In accordance with this act, which must be complied with before riparian owners can build dams in navigable waters of the United States, the United States, through the War Department, is empowered to require the dam owner to furnish to the United States free of cost such water and such locks, log sluices, fishways, and other auxiliary constructions as are necessary in the interest of navigation and the fisheries, and the act reserves to the United States the control of water levels and a right to charge for all benefits received by the dam owner from Government constructions. The act, which apparently assumes that the dam owner is a riparian owner who has already complied with State laws, would seem to show that there is no objection in any or all cases to a cooperation between the riparian owner and the Federal Government in the construction of dams suitable for the joint use of navigation and power development, provided that the cost be divided equitably between the two parties and that the combined development is practicable and not injurious to the public rights of navigation. The act specially provides that all dams built in accordance therewith shall be so built as to form a part of a comprehensive improvement for navigation. As the riparian owner must comply with requirements of State as well as of Federal laws, it is quite possible that the best cooperation might be achieved by arrangement between the Federal Government and individual States, such as would leave to the latter all questions of private or State ownership of the riparian properties affected and all dealings with the individual riparian owners, as well as the selection of the best methods of utilizing the water to its fullest possibilities and the determination or control of rentals for water used or powers delivered; but the question is still an open one and needs full discussion and a thorough investigation before its legal questions can be satisfactorily settled and the best methods of practical cooperation can be agreed upon. What is most essential in this matter is not so much the present development of the water power as it is such an early action by each State as shall assure the conservation of all potential water powers in such way as to prevent them from being monopolized by private parties during present disuse, and as to make it possible at any future day their use to the fullest extent allowable and to the greatest benefit to the general public.

STATE ENGINEER BUREAUS AND STATE CONTROL OR WORK.

As levees and drainage are built principally for the reclamation of farm land and of other private properties, and as irrigation systems, including storage reservoirs together with their dams and canals, are built principally for the development of farm property and the building up of communities, such property and communities existing and being governed mainly by State laws, and as water powers are developed principally for the building up of corporations and business concerns also existing under State incorporation and ordinarily concerned mainly with other developments within a single State, it seems very proper that all these engineer constructions should be regulated, if at all, by State authority, rather than by Federal authority, and that the Federal Government should intervene only as an advisor or a controller, and should be an executive only so far as such constructions reach within the limits of several States or at least directly affect the development and prosperity of several States. Even in the latter case it would seem most desirable that the activities of the Federal Government should not be directed to work of actual execution of the projects, but should be limited to advice and control, leaving to the local States the actual execution of all local details of construction, operation, and service, as well as the benefits connected therewith.

Because of the present growing probability that the above-named natural resources of land and water must eventually be handled in some such manner as above outlined, it is already urgently necessary that every State of the Union, which has not already done so, should establish at an early date an office of State engineer, or its equivalent, to investigate, report results, advise the State legislature, direct construction operations, and exercise State control of all work of drainage, irrigation, water-power construction, and other water utilities within each State, leaving to the Federal Government the control of only such of these constructions as concern such rivers and harbors as do not properly come under control of a single State. Several of the States have already made great progress in such directions. For many years Massachusetts and Rhode Island have had State river and harbor commissions working always within State lines and in harmony with the Federal requirements. New York has had a State engineer directing State canals, State river improvements, and other works of public nature within the State limits. Connecticut has recently organized a river and harbor commission, which has recommended the creation of a State engineer. Illinois has organized an internal waterway improvement commission. Wisconsin and Minnesota have organized water supply bureaus or departments to specially consider water-power development and storage reservoirs, and several other States are either doing or preparing to do the same. Now that the governors of the separate States are assembling once a year in conference to discuss all matters of common interest to the individual States, it will be far easier than in the past to not only organize State engineer offices but to operate them, under common standardized rules and regulations, agreeing so far as possible under their diverse local conditions, and, on the whole, with harmony and without conflict. Any influence you can bring to bear, individ-

ually or as a body, to assist in this development of local State engineer offices and local harbor commissions will be of great benefit, not only to the country at large but very directly to the best progress of the work for which your association was specially organized. I am inclined to believe that by the time that such State offices can be properly organized and thoroughly established throughout the country, the waterway movement will have reached such a stage of development as to require all the assistance it can get from each State concerned, as well as what it will naturally receive from the Federal Government. One thing, however, seems quite certain, and that is that when, as has happened in some cases in the past, the local improvement of small intrastate streams can offer early returns of as much as 100 per cent per year for several years to the various individuals and communities most directly affected, and where private control is illegal and unwise and Federal help must be postponed on account of other more important and more pressing interstate developments, it will be good business for the local State to take up the matter vigorously in its own interests even if it has to impose special local taxes or to borrow the money by the best or most available methods.

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WITH PARTICULAR REFERENCE TO THE CAUSES OF THE PRESENT STAGNATION OF WATER-POWER DEVELOPMENT IN THAT COUNTRY¹

A present-day discussion of water powers in the United States is necessarily a discussion, not so much of their development, as of their lack of development. To a citizen of any European country it must be amazing to note that in the United States millions of kilowatts of water-power energy, the development of which is commercially feasible, have been for years, and still are, running to waste. It is all the more amazing that at the same time millions of dollars of capital have in that country been for years, and still are, vainly demanding opportunities for water-power investment. Many large industries, dependent upon water power, precluded by conditions prohibitive of water-power investment there, have recently located, and others are now seeking location, in other countries. Why is it that, in a country so advanced in general industrial progress, and particularly in the science of the development and transmission of electrical energy, so rich in its natural resources, and so affluent with accumulated wealth and capital, the history of the utilization of this great natural resource is a history, not of progress, but of stagnation? Why is it that, in these recent years, while the development of electrical science has made possible the beneficial use, and therefore the conservation of water powers theretofore wasting by non-use, there has been, comparatively speaking, no water-power development in the United States?

It is not because of lack of enterprise. It is not from a failure to appreciate the wonderful possibilities which exist. It is not because of lack of immediate markets for power. Neither is it because of lack of capital for investment, nor because the investor unreasonably shrinks from the hazards now presented for such investments. The cause is the halting, capricious,

¹ This address was prepared by Mr. Brown for the International Water-Power Congress which was to have been held at Lyons, France, in September of this year but which was indefinitely postponed on account of the European war. As it is a timely discussion of the water-power problem, we have secured the privilege of its publication at this time.—EDITORS.

unreasonable, and sometimes super-sentimental attitude towards the water-power question which is assumed by the Federal and State legislatures. The obstacles to water-power improvement in the United States are purely legislative. Legislative policy, Federal and State, has been lacking in sanity, in consistency, and in constructiveness. Its main characteristic has been inaction. Long-standing legislative obstacles admittedly prohibitive of the investment of private capital in water-power development are kept in force.

THE WASTING WATER POWERS OF THE UNITED STATES

The potential water-power development in the United States may be stated conservatively at 150,000,000 kilowatts. This means the amount ultimately developable. This estimate does not consider present market conditions, nor present possibilities of adequate returns upon investment.

From the latest authentic computations it may be safely stated that there are in our country at least 15,000,000 kilowatts of water power yet unutilized which would now be developed, or would now be in the course of development, if the prevailing legislation in regard to water powers had not been such as to drive private capital from such investments. The amount of water power already commercially utilized in the United States is approximately 5,000,000 kilowatts, while the amount of steam power commercially utilized is three times that amount. Conservation of water powers, therefore, has been so retarded in the United States that 75% of the water-power energy now commercially available in that country is unnecessarily running to waste.

Of this wasting amount approximately 5,000,000 kilowatts are located upon navigable streams, which are, for the most part, outside the public domain, but which are indirectly subject to the regulation of Federal legislation. An equal number are within the public domain, or are so located that their utilization would involve some part, small or large, of the public domain. The latter are more directly subject to Federal regulation. Therefore, approximately 10,000,000 kilowatts of available water power are now unnecessarily wasting in the United States because of obstacles to development presented by the prohibitions and insufficiencies of Federal legislation.

As the legislative obstacles are mainly those of Federal legislation, the citizens, speaking from a national viewpoint, may be

said to deserve the loss thus suffered until the national electorate shall force its legislature, the Congress of the United States, to make legislative policy consistent with water-power development. But the right and interest in the solution of the problems presented are localized. The necessity for their solution, through the enactment of constructive remedial legislation, is best appreciated and understood only in those localities where natural water powers are most largely situated. No matter that the legislature of a State may shape its statutes so as best to promote water-power development, that State must continue to suffer from lack of development so long as the Federal Congress shall persist in a restrictive and unwise legislative policy prohibitive of investment.

In the state of Alabama, for example, investors with ample capital, anxious for water-power investment, have sought reasonable conditions for the development of the 300,000 kilowatts of energy still wasting in the large streams of that State. The state laws there are framed to attract investments; but, by the Acts of the Federal Congress, reasonable and business-like conditions have been denied. Thereby that State and its citizens, as well as investors who wish to locate there, have been denied the privilege of utilizing, for the benefit of that State and of the nation, the natural water-power resources which are wasting within its borders. The same is true in the State of Washington, with 600,000 kilowatts of power still wasting; in New York, with not less than 250,000 kilowatts waiting for development; and in Tennessee, with 200,000 kilowatts unutilized. In the thickly settled State of Connecticut, which has an area less than one-third that of Denmark but with about one-half as much population, development is retarded to the extent of 50,000 kilowatts.

Other similar instances of prohibited industrial development, demanded by other states and their citizens, in connection with feasible utilization of wasting water powers, exist through the refusal of the Federal Congress properly to exercise its jurisdiction. Such has been the prohibitive attitude of the Federal Congress in its persistent refusal to remove statutory obstacles, which are admitted to be unnecessary and unwise, that, since about 1907, there has been no water-power development upon the navigable streams of the United States under any Federal permit granted within that time. And yet the same period has marked a greater advance in the science of development, transmission,

and utilization of energy from water power than during all the years preceding.

The same restrictive policy of inaction has characterized the legislation of the Congress with respect to the sale and leasing of water powers upon the public lands of the United States. These comprise those lands which have not yet passed to private ownership, but which are still owned and controlled by the Federal Government in its capacity as proprietor. They are known as the "public domain." While some investors have been willing to encounter the hazards of uncertain tenure and the menace of arbitrary revocation of their rights granted under leases from the Government, they have, for the most part, shrunk from the restrictions and uncertainties in which their investments would be involved. The result is, that millions of kilowatts of water-power energy, the development of which under reasonable legislative conditions would attract capital, are left wasting on the public domain.

Many large industries, after long waiting for the promised remedial legislation which would allow business-like conditions for their investments in water-power development in the United States, have lost hope of any coöperation by the Federal Congress. They have become inclined even to distrust the good faith of that body. Some of them have gone to Canada, to Norway, and to other foreign countries. Some have retreated to the smaller streams in the mountainous regions, where the cost of development is greater, but where business-like protection of their investments is safeguarded by state statutes, free from the caprice and uncertainties of Federal interference.

The present waste of water powers in the United States thus outlined is due to legislative obstacles, and particularly to the obstacles presented by the defects in Federal legislation. No substantial progress in the utilization of the water-power resources of our country will take place until the legislative policy of the Federal Congress is changed. I am, therefore, presenting the most important water-power problem which is now before the people of the United States when I explain these legislative obstacles and the difficulties encountered in any attempt to overcome them.

CONDITIONS AFFECTING THE WATER-POWER PROBLEM

In order that a foreigner, for example, a citizen of France, may understand the difficulties presented in any attempted solu-

tion of the water-power problem in the United States, it is necessary, at the very outset, that he should have in mind certain conditions there existing which are, in a large measure, peculiar to that country. Such conditions may be generally classed as (1) physical, (2) constitutional, and (3) political.

Physical Conditions: The physical conditions are different from those presented in any European country. The water-power problem in the United States applies to an area which is approximately equal to that of all Europe. In that great territory the topography of the country and the size and character of its streams are at least as varied as those of all Europe. Moreover, from a national viewpoint, this entire territory comprises one country under one government; while, from the viewpoint of the States, it comprises some fifty separate sovereign governments. Europe includes about twenty countries, each with its own supreme government, subject to no paramount jurisdiction.

Next, the ability to market water-power energy and the products therefrom is a most important factor. While industrial development, which means demand for power, is not necessarily coincident with density of population, nevertheless facilities for marketing power are generally, in different localities, proportionate to population. It is significant, therefore, that with about the same area, the density of population in the United States, as compared with that in Europe, is as 1 to 6. If we exclude Russia in Europe, the area of the United States is nearly three times that of Europe, and the density of the population, as compared with that of Europe, is as 1 to 20. Nevada, which is about half the size of France, has a population of less than one person to two square miles. In some well-populated States of large size there are few or no water powers. Texas, with an area greater than that of all France, has, comparatively speaking, no water-power facilities, either developed or undeveloped. Likewise with North Dakota, although it has an area six times that of all Belgium.

Another important physical fact is, that, despite the stupendous extension of railways in the United States, there are yet large expanses of territory, rich with water power and other natural resources, to which no modern means of transportation have as yet come. For instance, using maps of the same scale, upon a map of Oregon one can place a map of Ohio, a state

of nearly half the size of Oregon, without touching any point yet traversed by a railway. And Oregon is nearly one-half the size of France.

Again, the coal resources of the United States are being rapidly exhausted. The total annual coal-consumption there is somewhat in excess of 500,000,000 tons. At the present rate of consumption the anthracite-coal supply will disappear before the end of the present century. While the supply of bituminous coal, the total amount of which has been computed, may last for centuries, the price of coal is steadily increasing. At present such increase is more than offset by the increased economy in the use of steam power. The investment-cost of water-power development per kilowatt produced is generally greater than that of steam-power development. In many instances, indeed, fair interest on the difference would supply coal for a steam plant. It is only under exceptionally favorable conditions that water power can to-day compete with steam power. Every arbitrary restriction tends to make competition still more prohibitive of water-power investment. Except for such artificial handicaps, however, economy would demand, more and more as time advances, the use of water power as against steam power. But the economy to the consumer is not of the most importance. To the extent that water powers commercially capable of development are left unutilized, to that extent are national economies violated. Such waste is a direct waste; but it involves a further waste,—that arising from the using up of coal resources which, under proper administration, might be prevented by the use of the wasting water powers, the latter being constant and, from their very nature, not susceptible of exhaustion. Conservation—which signifies saving from waste—means, as applied to coal, the greatest possible prevention, or at least postponement, of use. As applied to water powers, conservation means the greatest and most immediate use possible.

Constitutional Conditions: Serious difficulties, peculiar to the United States, are presented by reason of the property laws of that country and certain provisions of constitutional law to which all legislation must be subject. The Federal Congress is a legislature of expressly limited powers, these limits being specified in a written Federal Constitution. This fundamental law not only limits the powers of the Federal Congress, but also contains certain limitations upon the powers of the state legislatures. All powers, however, which are not by this instru-

ment expressly delegated to the Federal Congress and which are not therein expressly forbidden to the States, are reserved to the several States as separate, sovereign governments. The laws of property rights, though, generally speaking, in accord throughout the various States, are not always uniform as to some subjects of property. This is particularly true in regard to the ownership of water powers, that is, with regard to the property right of their utilization. Subject to the exercise by the Federal Congress of the powers expressly limited by the Federal Constitution, the law of property rights with reference to water powers is determined by each State for itself.² This does not mean that the state legislature may at any time arbitrarily establish or change such property right. The nature and extent of such power in each State is determined by the law as already established by the decisions of the highest court of that State. When once so established the State may not legislate in derogation of such property right without infringing the prohibitions of the Federal Constitution, which prohibits legislation, Federal or State, from encroaching upon established personal or property rights.

The only power or control by the Federal Congress over water powers or over water-power streams is through the exercise of the power expressed in the Federal Constitution "to regulate commerce" between the States. This expression of power has been construed to include the power to regulate the means of inter-state commerce, and, therefore, to include the power to regulate the commercially navigable streams of the country for the purpose of protecting their uses for navigation. The Federal Congress, therefore, has prohibited any structure in the bed of navigable streams except after express statutory consent by the Congress and subject to the approval of the War Department of the United States, including its Chief of Engineers.³

It is obvious that such statute is, when properly viewed, one for the regulation of commerce and not one, either directly or indirectly, for the regulation of water powers as such. Obviously, also, as the power of regulation can extend no further than that which is expressed in the Federal Constitution, the right of regulation of the highway streams is limited to what

² *Water Power Co. v. Water Commissioners*, 168 U. S. 358.

³ Act of March 3, 1899, 30 U. S. Statutes at Large, 1121.

is necessary to protect the interests of navigation. Beyond that, and subject to such limited Federal power, the power of regulation and other legislative functions with respect to water powers belong to the respective States.

The present problem in the United States is, What kind of statute shall express the Federal consent necessary to the development of water powers in navigable streams? What restrictions may and shall the Federal Congress impose? From the very nature of the fundamental law, the Congress must keep within its constitutional authority. It must not encroach upon the rights of the respective States. It must not infringe upon the rights of individuals as they have been established under state laws.

This problem of exercising Federal consent is further affected by divergent views as to what are the particular property rights of riparian owners in the different States. Generally speaking, such individual property rights, as established by the law of the respective States, are of two classes, according as the English common law of riparian rights has or has not been established and retained as the property law of a State. In those States which lie along or east of the Mississippi River, the English common-law doctrine prevails. There, subject only to the paramount right of control for the public use of navigation, first, by the Federal Government and, second, by the State, the riparian owner has, as incident to his real-estate right, not the ownership of the waters, but the right of use, for power and other private purposes, of the waters of the streams which naturally flow past his riparian land. This right is a real-estate right and as much a part of the property in the land as any other benefit which arises out of the location or nature of the land. Such riparian owner owns the right to develop and use all the water power which can be developed by the natural flow in the river under the head and fall within the limits of his riparian land. Neither this right nor the benefit of its use can be diminished or taken away without compensation. The owner must, however, yield his right of use, or conform the manner of such use, so far as necessary to improve the uses of the stream for navigation. His right is subject, not only to the natural navigation uses, but also to the use of navigation facilities which may be created by artificial improvements for navigation.

In the western states, generally speaking, there has been established, and now prevails, that rule with respect to water powers,

derived from the Spanish-Roman law, under which property rights to the use of the waters of streams for power, irrigation, or other private uses are, independently of the question of riparian ownership, dependent upon the priority and extent of actual appropriation.

So far as such property rights have been established in any State, and particularly where rights have become vested under such established property law, such vested rights are rights which, under the system of constitutional government of the United States, cannot be disregarded nor impaired by any legislature, whether it be of a State or of the Federal Government. Such encroachment is prohibited, not only by the Federal Constitution, but by the constitution of every State. State legislation, in order to be constitutional, must have regard for the limitations expressed in the state constitution and for limitations expressed in the Federal Constitution. It must also have regard for the constitutional powers of the Federal Congress to regulate streams in the interests of navigation, that is, to regulate commerce. Legislation by the Federal Congress, on the other hand, must be within the limits of the power expressly delegated to the Congress, which power, so far as water powers are concerned, is to regulate commerce. It must also leave to the respective States all other powers of regulation, so far as the property laws of those States have established such regulative power. In all water-power legislation, Federal or State, vested individual property rights must be safeguarded.

Obviously, it is not within the power of the Federal Congress to exercise direct legislative control over water powers as such. Neither is it within the power of any State to assume plenary legislative power over the water powers within its borders. The extent of the legislative power of a State in this regard is limited by the constitutional provisions protecting property rights, which have been referred to, and by other limitations of its powers already suggested. The power of legislation is not measured by the nature or extent of the general public benefit to which such legislation might be conducive. Legislation, both Federal and State, is limited by more than considerations of general public policy.

In respect of these limitations upon legislative powers of the Federal and State Governments, the problem of legislative control of water powers in the United States presents many differences from the legislative problems with respect to water powers existing generally in France and other European countries.

There is also the other difference which has been suggested, that between the power of Federal regulation, on the one hand, of water powers which are part of the public domain, that is situated upon the lands owned by the United States and which have not yet passed to private ownership, and, on the other hand, of water powers which are appurtenant to riparian lands, but situated on the large navigable streams outside of the public domain.

Political Conditions: There are other conditions affecting the water-power problem in the United States which are neither exactly physical nor constitutional. They are, rather, temperamental or subjective in their nature. They arise from certain mental attitudes assumed by some legislators and by some citizens representing policies in regard to water-power legislation, which policies are inconsistent with physical conditions or which are repugnant to constitutional law. Such policies are not issues of party politics. Their influence, however, is obstructive of remedial water-power legislation. Such influences, therefore, may, in a broad sense, be termed political conditions.

In the United States, if the expressed constitutional limits of legislative power shall be passed, it is the function of the courts so to declare. The determination by the courts of such judicial question with respect to any legislative provision, is final. When the question of the constitutionality of a statute comes before the court the presumption is, that the legislature has acted within its powers and that, so far as it had discretion, it has exercised such discretion reasonably. The contrary must appear, even beyond reasonable doubt, before the courts will nullify an act of a legislature. The correct theory of our Constitutional Government assumes that, in framing a statute, the legislative body will carefully and deliberately do its utmost to guard against any unconstitutional legislation and that, if it transpires that any such legislation has been enacted, it was through a conscientiously mistaken view of the scope and effect of existing constitutional provisions. Such theory, however, is not in fact applied. There is an increasing tendency on the part of legislators, Federal and State, in the United States, to disregard or to attempt to circumvent constitutional prohibitions. The tendency is to legislate in accordance with what is deemed to be the demand of current popular opinion, and to leave to the courts alone the duty of scrutinizing statutes, after their enactment, and to pick out the statutes or the

provisions of statutes which are palpably repugnant to the fundamental law and which, therefore, must be rejected as invalid. The tendency of the modern legislator is toward an almost reckless disregard of constitutional limitations. He seems to evince a willingness, not only to injure personal and property rights to the very limits marked by constitutional prohibitions, but to transcend these limitations to the utmost extent that may seem consistent with the temporary current opinion of his constituents. He shirks the responsibility of gauging legislation by the rule of the Constitution, and puts that responsibility entirely upon the courts. I do not hesitate to say that this tendency to reach and to exceed the limits of their constitutional powers, is now so generally prevalent on the part of legislators, Federal and State, that statutes are frequently passed in the United States encroaching upon personal and property rights which, for that very reason, would be rejected by the parliaments of Canada or England, or by the legislative bodies of other countries whose powers of legislation rest substantially upon the wise exercise of broad, unlimited discretion.

This tendency on the part of legislators to disregard their expressly limited powers has been rebuked by the Federal Supreme Court. In the case of *Knoxville vs. Water Company*,⁴ that court said:

The courts ought not to bear the whole burden of saving property from confiscation, though they will not be found wanting where the proof is clear. The legislatures and subordinate bodies, to whom the legislative power has been delegated, ought to do their part. Our social system rests largely upon the sanctity of private property, and that State or community which seeks to invade it will soon discover the error in the disaster which follows.

This evil tendency of legislators clogs the efforts to enact wise water-power statutes.

The foregoing suggests another condition affecting this question. I refer to the influence of those who, in substance, advocate modifications, changes, and even suspension of constitutional limitations through judicial construction and by other devious methods, instead of by the process of amendment expressly provided. They urge that the courts should, by interpretation and by viewing the so-called "police power" of the government as

⁴212 U. S. 1, 18.

paramount to every provision of the fundamental law, circumvent constitutional limitations, and thus leave the legislatures unhampered in their efforts to legislate in derogation of property rights. Such agitators, upon the plea of public policy, urge legislation, and its enforcement by the courts, which would, in effect, confiscate to the governments, Federal and State, the ownership of all the natural water powers of the country and of the right to all the proceeds and benefits arising from the development and use of such water powers. Such theorists, by the advocacy of their extreme views, have been an obstacle to the passing of proper water-power legislation.

The same influence is exerted by those who advocate greater centralization of powers in the Federal Government, and who, by legislation encroaching upon the rights of the respective States and of the property rights of their citizens, would make of the Federal Government one which is paternalistic—one which, under the guise of regulating commerce, would lay its hand upon every industry, and, indeed, would own and operate throughout the country all the instrumentalities of commerce, of transportation, and of communication.

These and other obstructive influences are in a measure socialistic in their tendency; for the socialists in the United States center their active opposition to existing institutions in attacks upon the limitations of the Constitution. Their effort is to promote disregard for the Constitution. They would have the courts refuse to recognize the constitutional prohibitions upon legislation. They claim that the judicial function to declare statutes unconstitutional is exercised only by usurpation by the courts themselves. They would deprive the courts of this function, and open the way to the elimination of the right of private property by vesting in the voters themselves the direct and arbitrary power, not only of initiating and passing statutes, but also of dictating to the courts as to the enforcement of all statutes, irrespective of the question of constitutionality.

Paradoxical as it may seem, it is nevertheless true that the most obstructive influence in the United States against the conservation of water powers is that exerted by some agitators who arrogate to themselves the title of "conservationists."

As the investment of private capital is indispensable to water-power development, a consistent conservationist would promote legislation affording conditions attractive to such investments. One who, either as a citizen or as a legislator, hinders such

legislation is not a conservationist. He is an obstructionist. When such an obstructionist seeks to incite prejudice against remedial legislation by spreading mis-information among legislators and the people, and when he seeks, by advertising himself and his fallacies in public print, to further his own political ambitions, he becomes, what we call in America, a demagogue. We have, in the United States, many such pseudo-conservationists whose baneful influence has retarded water-power legislation and is now obstructing earnest attempts to enact constructive, remedial laws. One of these, now a candidate for United States Senator, dominates a certain voluntary organization which, as far as water powers are concerned, is mis-named a "conservation" congress.

This set of agitators are now conducting an organized campaign for the purpose of creating prejudice in the minds of the general public and in the minds of the members of the Federal Congress against the removal of the existing legislative obstacles to water-power investments. Their idea of "conservation" of water powers is, in effect, to retard or prevent utilization. They advocate that, by means of statutes for such purpose, the Federal Government should assert legislative control of all the water powers on all the streams and their tributaries, small and large, and of all the watersheds. They would repudiate the established private property rights in the riparian-law States, and would enact and enforce legislation depriving riparian lands, and their owners, of the benefit of the use of water powers. They would confiscate either the water powers themselves or the proceeds thereof for the benefit of the general Government as custodian for the people at large. They would enact such legislation, and procure its enforcement, by devious methods of disregarding constitutional safeguards to property rights.

All this they would prefer to have accomplished through the Federal Congress, under the pretext of exercising its limited power to regulate commerce. It is obvious that such Federal legislation, besides encroaching upon property rights in many and, indeed, in most of the States, would also encroach upon the power of control reserved to the States. Moreover, it would deprive a State rich in water-power resources, and its citizens, of the full lawful benefit of such resources belonging to such State and particularly to the individual riparian owners therein. If such result could not be effected by Federal legislation then

this same class of extremists would have similar powers of legislation exercised by the respective States.

These agitators represent neither progress nor reform. Their attitude is as regardless of fundamental law as that of any socialist. The legislation which they favor is impossible under our system of Government, because it would be inconsistent with any lawyer-like or judicial view of legislative powers. The persistent advocacy of their ideas, however, clouds the real issues of the problems confronting the legislatures of the nation and obstructs their solution.

A mere summary of the facts objectively disclosed with regard to water-power development in the United States, would give no adequate comprehension of the nature of the problem there presented; much less would it suffice to explain the difficulties which have so long stood in the way of its solution. I have, therefore, not confined myself to figures showing lack of development, nor to a recital of those water-power legislative measures which are now in force and those which are proposed for enactment. The water-power problem in the United States involves a contest between possible and impossible theories of legislation. The obstructive influences are largely subjective; and their persistence constitutes the chief cause of the retention of legislative obstacles and, hence, the chief cause of the continued stagnation of water-power improvement in our country. Having explained the nature of the conditions affecting legislation, I will next briefly outline existing water-power statutes in the United States and the remedial legislation proposed for the purpose of promoting water-power utilization.

FEDERAL LEGISLATION

The present retardation through Federal legislation and its possible remedies involve three classes of Federal control of water powers.

Water Powers on the Public Domain: The "public domain" comprises those various tracts of land, mostly situated in the far western states, owned by the Federal Government under a title which is proprietary in its nature, as distinguished from a purely sovereign right of control or regulation for a particular public interest. Such lands include, for the most part, those which are known as the forest reserves. Connected with this

same class are water powers which are neither on, nor a part of, the public domain, but the utilization of which, either for flowage, transmission-lines, or other purposes, requires some use, small or large, of lands which are a part of the public domain.

In order to develop water powers which are a part of the public domain, the investor must first obtain a permit from that Department of the Government having jurisdiction of the land in question. This is generally the Department of the Interior. The permit must cover the right to construct and maintain and operate the dam, power-plant, and transmission-lines. But such permit is revocable at the will of the Department by which it is granted, and is subject to such conditions as that Department may impose, not only when the permit is granted, but subsequently thereto. Indeed, the permit, under certain circumstances, may be automatically revoked, as by entry by a third person under the homestead or mining laws.⁵ This unlimited power to make conditions in the permit and to change the same, allows the head of the Department to exact pecuniary burdens and tributes, the amount of which, from time to time, depends upon the discretion of such official. He has not power to grant a permit for any term which would, for any length of time, give stability to investment, nor the power to make the terms and conditions thereof free from unlimited uncertainties. Private capital has halted before such unbusiness-like conditions. As against over 5,000,000 kilowatts of water power subject to public-domain law which are now capable of commercial development, less than one-tenth of that amount has been developed.

But these prohibitive rules do not alone apply to the water powers which are themselves a part of the public domain. There are many millions of kilowatts of developable water power so located that their development or operation requires some use of some portion of the public domain, either for power plants or transmission-lines. Under the present laws such incidental use, however small, of any part of the public domain is subject to permits from government officials, always revocable at will and subject to conditions, and changes in conditions, at the discretion of the official granting the permit. This extends the features of uncertain tenure and of indefinite and changeable conditions to such an extent that the development of this class of water powers has been for years, and still is, at a standstill.

⁵ Acts of Feb. 26, 1897, June 4, 1897, Feb. 15, 1901, and Feb. 1, 1905.

Water Powers on Navigable Streams: Next, are the water powers upon navigable streams outside the public domain. The power of control by the Federal Government over these arises solely from its limited constitutional power to regulate commerce. This is in no sense a proprietary right or interest. It is merely a limited sovereign right of control for the particular purpose specified. Subject only to that limited paramount right, all rights of regulation and proprietary rights to the use and benefit of water powers belong to the States and their citizens, the rule of property rights being fixed by the law of the respective States.

The Act of March 3, 1899, already cited, provides, consistently with the constitutional power of the Congress to regulate commerce, that no obstruction, including water-power dams, shall be constructed in the bed of a navigable stream without the consent of the Congress. This prohibition and the reserved power of consent are logically retained for the sole purpose of protecting the present and future uses of streams for navigation. The consent provided had, until 1906, in accordance with the statute of 1899 and previous similar statutes, been granted in each case by a special act of the Congress. Each such statutory consent contained such provisions as might be agreed upon between the Congress and the private investor who was the grantee under the consent. These different special acts vary in the nature of their conditions; but under most of them construction has been made and vested rights thereby acquired. Nevertheless, the legislative tendency to disregard private property rights and investments made in good faith, is shown by the claim now asserted by many, that the general power of repeal or amendment reserved in those special acts makes such investments lawfully subject to any further burdens or conditions which the Congress shall at any time arbitrarily impose.

This claim originated, not only in the increasing tendency, already outlined, of legislators to disregard the equitable as well as the legal right of investments already made, but also in the growing prevalence of that class of agitators, already referred to, who falsely pretend to represent the cause of conservation. Disregarding the constitutional limitations of water-power legislation, they argue that, as water powers upon navigable streams can be lawfully developed only after consent by the Congress, therefore the Congress may attach to such consent any conditions which it chooses to establish—that it may law-

fully impose any burdens upon the investor or reserve any right of tribute or other advantage to the Government—all as conditions to its consent. What the constitution does not permit directly, indeed that which it prohibits, they would accomplish by indirection. They urge legislation by which the advantages of water-power use and the revenues therefrom shall be turned, either from the States in which they were located or from the individuals having property rights therein, to the general government as representing the people at large.

The advocacy of this theory of conservation, and the contest over its application in legislative form, have been, more than anything else, the cause of the lack, in the United States, of proper legislation for water-power development. It was intended by the Acts of June 21, 1906, and of June 23, 1910, to establish the statutory conditions for any consent by the Congress so that afterwards the terms of those Acts should become part of any consent granted. It was the fallacious theory of conservation already suggested that made those acts prohibitive, instead of promotive, of private investments. It is also the same pseudo-conservationists who are urging still further legislative restrictions and burdens upon investments, and who are now harassing the legislators and the present administration at Washington in their earnest attempts to enact legislation which shall remove the present legislative obstacles to private investments.

By these Acts, of 1906 and 1910, the term of the consent cannot exceed fifty years; and at the end of that time the investor has no rights. More than that, even before the expiration of the fifty years the consent may at any time be arbitrarily revoked without a return to the investor of more than a part of his necessary investment. The investor, therefore, must, in addition to what would otherwise be fair service-charges, make his charges for service to his consumers sufficient, within that period, to pay back to him the entire cost of his investment. No consideration is taken of the fact that the investor might have to wait five or ten years, or more, to build up a market which would consume the products of the full capacity of his plant. By the increased service-charges imposed he cannot in many localities meet the competition with steam power, which, in many places, at the present cost of steam power, is very close. Indeed, in some places the advantage is in favor of steam power. In addition to this, the same Acts reserve to the War Depart-

ment of the Government the power to impose conditions as a part of the permit to be issued by that Department under the consent given by the Congress, and also to change such conditions, according to discretion. There is no fixed limit to such possible conditions and burdens, thus making the basis of the permit and the conditions to be fulfilled vague and uncertain.

These Acts and the policy therein announced have been so prohibitive of investment that investors, almost without exception, have refused to apply for or to accept any permits under them. Their prohibitive effect upon investment, and therefore upon the development of water powers, has been demonstrated by experience. Reports to the Congress, by those who have investigated the question officially and otherwise, are recognized, by all who really seek a business-like solution of the problem, as proving the insufficiencies of the existing law.*

The present Congress is now struggling with this question. Those who appreciate the situation are seeking to remove the present legislative obstacles sufficiently to offer business-like terms and conditions for private investment. They would make the conditions of the Government permit sufficiently broad to admit of the preservation of all present and future navigation interests. They would, however, make all conditions and all burdens upon the investor as specific and definite as possible, in order that the investor may know in advance the extent of his necessary ultimate investment. They would make the term of the permit indeterminate, and revocable only for cause, or renewable at its termination upon reasonable terms, thereby assuring reasonable stability of investment and avoiding the necessity of excessive charges upon consumers. The question of rates to consumers, it is proposed, shall be left to the commissions of the respective States. The public interests are to be protected by ample provision for revocation proceedings in case of default by a grantee in the performance of the conditions imposed.

Whether such remedial legislation shall be enacted depends upon the extent to which the pseudo-conservationists, above referred to, shall be able to exert their influence against the measures now under consideration. These obstructionists are conducting an organized campaign for the purpose of creating

* Report, National Waterways Commission, Senate document 469, 62d Congress, 2d Session, page 54.

prejudice in the minds of the general public and in the minds of the members of the Congress against these constructive and remedial measures. In the meantime the leading members of the Congress, most of whom have informed themselves on the question, are working, irrespective of party politics, to join with the present administration in an attempt to have enacted the only legislation which will remove the present legislative obstacles to water-power development.

Water Powers at Government Navigation-Dams—There is a third class of water powers, not included in the two foregoing, which are also under Federal control, which control, however, rests upon a basis different from that of the other two. The Federal Government sometimes, at its own expense, builds and operates navigation-dams for the general use of the public. At such dams the water which is not necessarily used for navigation affords, under the head and fall of the navigation-dam, a developed water power. Such water power is incidental. The Government, however, having acquired the riparian rights for its navigation improvements, thereby becomes proprietor of such incidental water power. The scope of its proprietary interest depends upon the extent to which it has acquired the riparian rights; for to such rights, as we have seen, the proprietary interest attaches. It also depends, of course, upon the extent to which the law of the State in which the dam is located vests in the riparian owner the property right to the use of water power incident to his land.

When the Government has acquired all the riparian rights to which the water powers are incident, and has at its own expense constructed a navigation-dam, then the water power incidentally developed thereby is rightfully considered to belong to the Government and may be granted, leased, or sold by the Government as by any other proprietor.

But in many instances the physical conditions are such that the development of water power alone would be so expensive that it would not yield fair returns upon the investment. At the same time improvement for navigation at Government expense might be too costly either as a navigation or a water-power improvement, or both. In such instances the public interests would best be served by a coöperation between the Government, in the interests of navigation, and the private investor, for the purpose of water-power utilization. This class of cases

is met by the policy of a coöperative agreement by which the private investor furnishes such part of the necessary investment as he can economically furnish, and the balance is furnished by the Government. Thereby both navigation improvement and the development of water powers are procured. The terms of such agreements vary according to the different conditions in each case. This statement applies to those dams which, from the Government viewpoint, are primarily navigation-dams, as to the construction and operation of which special agreements are necessary.

Where a water-power dam in a navigable stream is constructed by private capital under Government consent, the policy of the past, as well as of the proposed legislation, contemplates that, to the extent which is consistent with a fair capital investment and a fair return thereon, the private investor shall construct, maintain and operate, free of expense to the Government, navigation facilities as a part of and in connection with his water-power development. This burden is deemed to be imposed as within the power of control in the interests of navigation.

STATE LEGISLATION

Upon the subject of state control of water powers in the United States, I shall offer little in addition to what has already been presented.

Each State, subject to the exercise of the Federal power of control, which has been defined, has all the rights of control over all the streams, or parts of streams, both navigable and unnavigable, which are located within the State, and over the water powers therein. This does not mean that each State may by legislation make water powers within its borders the source of direct advantage or revenue to the State itself. Each State and its legislature are bound by the law of property rights with respect to water powers which has become established in that State and under which vested property rights have been acquired. This makes the jurisdiction of the States over water powers somewhat varying. Generally speaking, in any State where the law of public ownership and control of water powers has been established as a property law of the State, a statute based upon such public ownership and control, and having regard for the particular property rights there established, would be a constitutional and enforceable statute. In such States individual

water rights are secured under laws regulating appropriation permits and in various ways controlling and limiting the right of private use. Such States are those among the States west of the Mississippi in which the property law of riparian ownership either has never been established or has been established only in a modified form.

But the rule is different in those States which, as I have said, lie generally along, or east of, the Mississippi River, and in which the law of riparian rights, both upon navigable and unnavigable streams, has been established as a property right. In such States a statute would be unconstitutional if based upon the theory that water powers are a resource belonging to the entire State, or that the advantages and revenues from developed water powers belong primarily to the entire State. It would be declared by the courts invalid, as confiscatory of vested private riparian property rights. It should be kept in mind that the vested property rights referred to are not confined merely to the right of advantage in water powers actually developed. The right of development, that is, the right of the use, of water rights which are appurtenant to riparian land, whether the water powers are developed or not, is itself an incident to the real estate. As the books say, it is a right belonging to the riparian land *jura naturæ*. Under our law the only difference, as between navigable streams and unnavigable streams, is, that this property right is subject, in the case of navigable streams, to the exercise of the paramount Federal control for the specified purpose of protecting navigation interests.

In the formulation of State water-power legislation these distinctions are often overlooked. Some States have formed commissions to control water powers under statutes which view the public right of ownership and control too broadly, and which in effect restrict the vested rights of riparian owners to the point of confiscation. The extent to which such statutes may be enforced must yet be determined by the courts.

In some States the courts have already declared against such attempts at confiscation. The legislature of Wisconsin passed a statute two years ago which was based upon the theory of State ownership and control of water powers, and which, in substance, attempted to repudiate the law of riparian ownership. The supreme court of Wisconsin promptly declared that statute

invalid on the ground that it infringed the established private property rights belonging to riparian land.⁷

It may be said, however, that the several States are anxious to have their respective water-power resources developed and used; and that, if water-power legislation were confined to that of the States, there would have been no lack of progress such as now exists in the United States in regard to water-power development. The present demand is for large power sites instead of for small ones such as are found upon the small, unnavigable streams. The demand is for the opening up of the water powers upon the large "navigable rivers" of the country. This does not mean alone those rivers which are at present actually navigable. The term is held to include all rivers, and those parts of rivers, which are reasonably capable of artificial improvement for commercial navigation. Therefore, it includes those streams upon which substantially all of the large water powers of the country are located. State legislation can never open up these water powers to use until Federal legislation shall be so adjusted that private capital may feel reasonably safe in making investments in such water-power developments.

Water-power capital in the United States is now waiting for the removal of the Federal legislative obstacles which are prohibitive of investment. Until they are removed the great water powers of the United States will continue to waste. Meanwhile the industrial development which would thereby be built up in our country is being driven to foreign countries, where a less suicidal legislative policy is retained.

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MINNEAPOLIS, MINN.

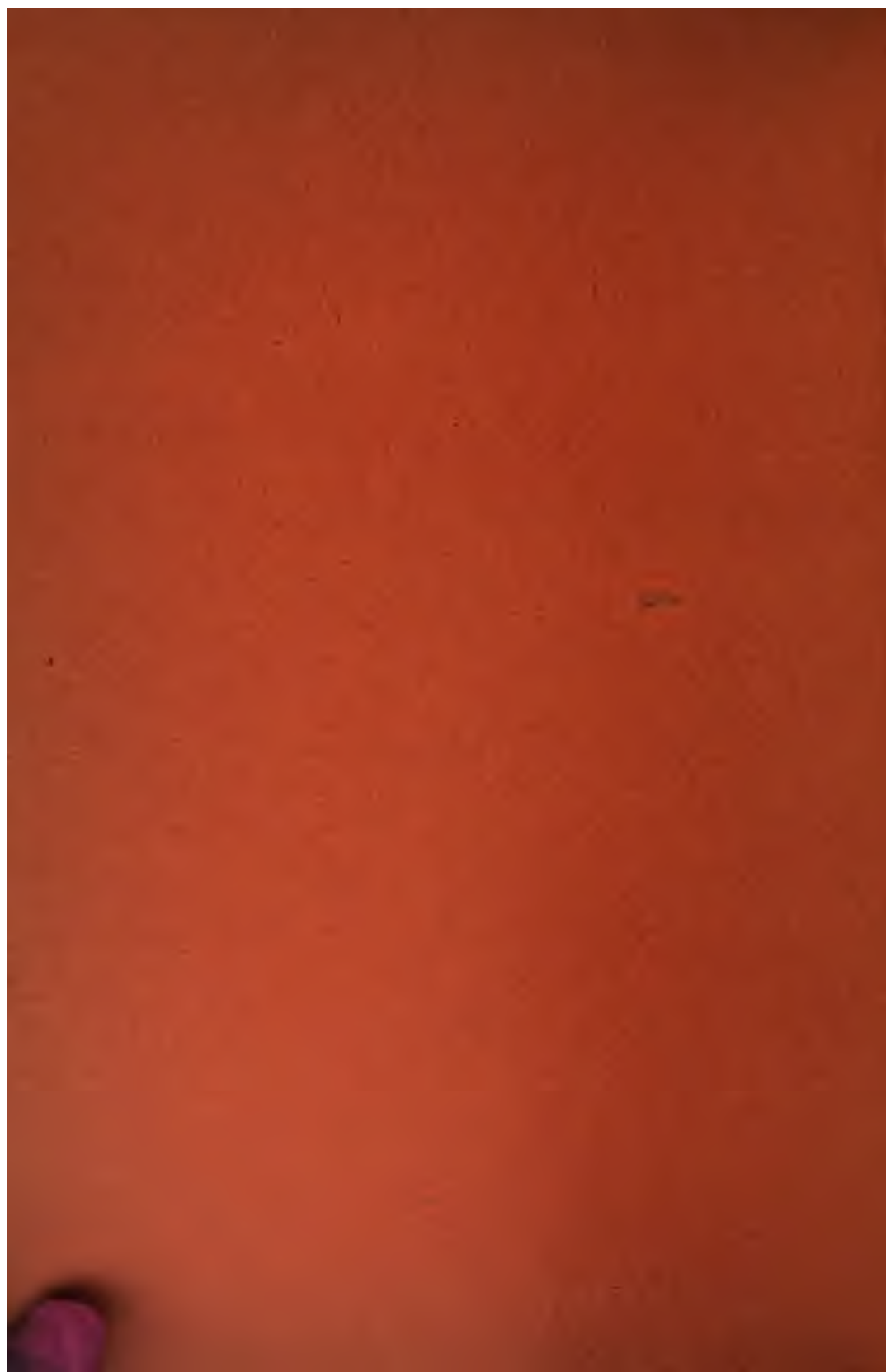
⁷ *State ex rel. Wausau Street Railway vs. Bancroft*, 148 Wis. 124.

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Le problème de la Force hydraulique
aux États-Unis

PAR

M. Rome-G. BROWN



DEUXIÈME CONGRÈS DE LA HOUILLE BLANCHE

Lyon, 1914.

SECTION DE LÉGISLATION

Le problème de la Force hydraulique aux Etats-Unis

PAR

Rome-G. BROWN

De nos jours, une discussion sur les forces hydrauliques dans les Etats-Unis doit, nécessairement, être moins une discussion de leur développement que de leur manque de développement. C'est avec un véritable étonnement qu'un habitant de n'importe quelle contrée de l'Europe doit constater qu'en Amérique des millions de kilowatts d'énergie hydraulique, dont l'utilisation est commercialement possible, ont été pendant des années et sont encore inutilisés. Son étonnement doit être d'autant plus grand que, pendant ce même laps de temps, des millions de dollars ont vainement cherché aux Etats-Unis une occasion de placement dans l'exploitation de ces forces hydrauliques. Beaucoup de grandes industries qui dépendent de la force hydraulique, gênées aux Etats-Unis par les conditions prohibitives imposées aux placements sur ces forces, se sont récemment établies dans d'autres pays ou cherchent à le faire. Comment se fait-il que dans un pays où le progrès industriel est, d'une manière générale, si avancé, et particulièrement dans la science de l'utilisation et de la transmission de l'énergie électrique ; dans un pays si riche en ressources naturelles et où affluent les grandes fortunes et les capitaux, l'histoire de l'utilisation de cette grande ressource naturelle ne soit pas une histoire de progrès, mais bien une histoire de stagnation ! Comment se fait-il que, pendant ces dernières années, alors que le développement de la science électrique a rendu possible l'usage avantageux et, conséquemment, la conservation des forces hydrauliques qui s'y perdaient par la non-utilisation, il n'y ait eu, relativement, aucune utilisation de la force hydraulique aux Etats-Unis !

La faute n'en est ni à un manque de hardiesse, ni à un défaut d'appréciation des merveilleuses possibilités existantes, ni à une absence de débouchés

immédiats, ni à un manque de capitaux disponibles, ni à une hésitation déraisonnable des capitalistes en face des risques que présentent actuellement de semblables placements. La faute en est à l'attitude hésitante, capricieuse, déraisonnable, et quelquefois par trop sentimentale, prise vis-à-vis de la question des forces hydrauliques soit par la législation fédérale, soit par les législations d'Etat.

Les obstacles à l'utilisation de la force hydraulique sont, aux Etats-Unis, purement législatifs. La législation, fédérale ou d'Etat, a manqué de bon sens, de constance, de prévoyance. Son principal caractère a été l'inaction. Les obstacles d'un caractère prohibitif, que la législation oppose depuis longtemps au placement des capitaux privés sur les forces hydrauliques, sont encore en vigueur.

La perte des forces hydrauliques aux Etats-Unis.

On peut estimer à 150.000.000 de kilowatts la force hydraulique susceptible, aux Etats-Unis, d'une utilisation définitive. Cette estimation est faite en dehors de toute considération des conditions actuelles du marché ou des possibilités d'un gain proportionné aux placements.

D'après le plus récent calcul authentique, on peut affirmer, en toute sûreté, qu'il y a dans notre pays au moins 15.000.000 de kilowatts de force hydraulique encore inutilisés, qui seraient déjà exploités, ou seraient actuellement en voie d'exploitation, si la législation qui prévaut en matière de forces hydrauliques n'avait pas été de nature à éloigner les capitaux de tout placement sur ces forces. La somme de force hydraulique déjà commercialement utilisée aux Etats-Unis est approximativement de 5.000.000 de kilowatts, tandis que la somme de force vapeur commercialement utilisée est trois fois plus grande. Il y a donc actuellement aux Etats-Unis 75 % de l'énergie hydraulique commercialement utilisable, qui se perd sans aucune nécessité.

Sur cette somme de forces inutilisées, environ 5.000.000 de kilowatts se trouvent sur des cours d'eau navigables, lesquels, pour la plupart, n'appartiennent pas au domaine public, mais sont indirectement soumis à la législation fédérale. Un nombre égal appartient au domaine public ou sont situés de telle manière que leur utilisation intéresserait, dans une mesure plus ou moins grande, le domaine public. Ces derniers sont plus directement soumis aux règlements fédéraux. Il y a donc, par le fait des prohibitions et des insuffisances de la législation fédérale, 10.000.000 de kilowatts de force hydraulique actuellement perdus aux Etats-Unis.

Etant donné que les obstacles législatifs viennent principalement de la législation fédérale, il est permis de dire, en se plaçant à un point de vue national, que les citoyens mériteront la perte ainsi soufferte tant que, par le moyen des élections nationales, ils n'auront pas forcé leur propre législature, le

Congrès des Etats-Unis, à faire des lois compatibles avec le développement des forces hydrauliques. Mais le droit et l'intérêt dans la solution des problèmes présentés sont surtout locaux. La nécessité de leur solution par la promulgation d'une législation réparatrice n'est vraiment appréciée et comprise que là où ces forces hydrauliques se trouvent en plus grande quantité. Il importe peu que les législatures d'Etat établissent leurs lois en vue de la plus grande utilisation de la force hydraulique ; le pays continuera à souffrir d'un manque d'utilisation de ces forces tant que le Congrès fédéral persistera peu sagement dans une législation prohibitive des placements.

Dans l'Etat d'Alabama, par exemple, de gros capitalistes, désireux de faire des placements sur la force hydraulique, ont cherché de raisonnables conditions d'exploitation pour les 300.000 kilowatts d'énergie encore inutilisés dans les larges cours d'eau de cet Etat. Là, les lois du pays sont de nature à attirer les placements, mais il a été impossible d'obtenir des actes du Congrès fédéral des conditions raisonnables et pratiques. De ce fait, cet Etat et ses habitants, aussi bien que les capitalistes qui désireraient s'y installer, se sont vu refuser le privilège d'utiliser, pour le bénéfice de cet Etat et de la nation, les ressources en force hydraulique qui s'y trouvent. Il en est de même de l'Etat de Washington, avec 600.000 kilowatts encore inutilisés ; de New-York, avec non moins de 250.000 kilowatts attendant l'exploitation ; de Tennessee, avec 200.000 kilowatts. Dans l'Etat de Connecticut, où la population est si dense qu'avec une superficie trois fois plus petite que celle du Danemark la population y est d'environ une moitié en plus, 50.000 kilowatts restent inutilisés.

Du fait de ce refus du Congrès fédéral d'exercer convenablement sa compétence, d'autres Etats et d'autres citoyens se voient, malgré leurs instances, empêchés de travailler à une utilisation parfaitement possible des forces hydrauliques. Telle a été l'attitude prohibitive du Congrès fédéral dans son refus persistant de changer des statuts qui sont reconnus inutiles et déraisonnables, que, depuis 1907 environ, ce Congrès n'a jamais accordé de permis en vue de rendre possible l'utilisation de la force hydraulique sur les cours d'eau navigables des Etats-Unis. Et cependant, durant cette même période, les progrès réalisés dans la science de l'utilisation de l'énergie hydraulique ont été plus grands que pendant toutes les années précédentes.

Le même système de prohibition et d'inaction a caractérisé la législation du Congrès, en ce qui concerne les ventes et baux de forces hydrauliques sur les terrains publics des Etats-Unis : sous cette dénomination il faut comprendre les terres qui ne sont pas encore devenues propriétés privées, mais qui sont encore possédées et contrôlées par le Gouvernement fédéral en qualité de propriétaire. Elles sont connues sous le nom de « domaine public ». Tandis que certains capitalistes se montraient disposés à affronter les hasards d'une tenure incertaine et la menace de révocation arbitraire de droits qui leur venaient de baux consentis par le Gouvernement, la plupart ont reculé devant les restrictions et les incertitudes auxquelles leurs placements se

trouveraient exposés. Il en résulte que des millions de kilowatts d'énergie hydraulique, dont l'exploitation attirerait les placements sous une législation raisonnable, restent inutilisés sur le domaine public.

Beaucoup de grandes industries, après avoir longtemps attendu l'accomplissement de la promesse qui leur avait été faite d'une législation qui leur offrirait des conditions pratiques de placement sur les forces hydrauliques, ont perdu tout espoir de coopération de la part du Congrès fédéral. Quelques-unes sont parties pour le Canada, la Norvège ou d'autres pays étrangers. D'autres se sont retirées vers de plus petits cours d'eau, dans les régions montagneuses où le coût de l'exploitation est plus élevé, mais où elles trouvent pour leurs placements une protection pratique dans des lois d'Etat exemptes du caprice et des incertitudes de l'intervention fédérale.

La perte actuelle des forces hydrauliques dans les Etats-Unis, telle que je viens de l'esquisser, est due aux obstacles législatifs et spécialement aux obstacles apportés par une législation fédérale défectueuse. Aucun progrès réel dans l'utilisation des ressources hydrauliques de notre pays ne pourra se produire avant un changement du système législatif du Congrès fédéral. En expliquant ces obstacles législatifs et les difficultés qui attendent tout essai fait dans le but d'en triompher, j'expose donc le plus important problème se rapportant à la question des forces hydrauliques : question actuellement posée au peuple des Etats-Unis.

Conditions affectant le problème des forces hydrauliques.

Pour qu'un étranger, un Français, puisse comprendre les difficultés que rencontre tout essai de solution du problème hydraulique dans les Etats-Unis, il est nécessaire qu'il ait, dès le début, présentes à l'esprit certaines conditions qui, dans une large mesure, sont particulières à ce pays. Ces conditions peuvent, d'une manière générale, être ainsi classées : 1^o conditions physiques ; 2^o conditions constitutionnelles ; 3^o conditions politiques.

Conditions physiques. Ces conditions sont différentes de celles présentées par n'importe quel pays d'Europe. L'application du problème de la force hydraulique aux Etats-Unis doit être faite à un pays dont la superficie est approximativement égale à celle de l'Europe entière. Dans ce grand territoire, la topographie du pays, la dimension et le caractère de ses cours d'eau sont au moins aussi variés qu'ils le sont dans toute l'Europe. De plus, tandis qu'au point de vue national, tout ce territoire ne forme qu'un seul pays sous un seul gouvernement, au point de vue des Etats, il comprend environ cinquante gouvernements souverains et districts.

L'Europe comprend environ vingt pays, chacun avec un gouvernement qui lui est propre et qui n'est pas soumis à une juridiction supérieure.

La faculté de trouver des débouchés pour l'énergie hydraulique et ses

produits est aussi un facteur très important. Tandis que le développement industriel ne marche pas nécessairement de pair avec la densité de la population, il faut bien reconnaître que les facilités de vente sont, dans les différentes localités, généralement proportionnées à cette densité. Il est, par conséquent, significatif de constater, qu'avec une superficie égale, la population des Etats-Unis, comparée à celle de l'Europe, n'est que de 1 pour 6. Si nous excluons la Russie, la superficie des Etats-Unis est près de trois fois plus grande que celle de l'Europe, tandis que sa population n'est que de 1 pour 20 de celle de l'Europe. L'Etat de Nevada, dont la dimension est à peu près celle de la moitié de la France, a une population de moins d'une personne par deux milles carrés. Dans certains Etats populeux et de grande superficie il y a peu ou point de forces hydrauliques. Le Texas, avec une superficie plus grande que celle de la France, n'a, comparativement parlant, aucune force hydraulique exploitée ou à exploiter. Il en est de même dans le Dakota du Nord, bien qu'il ait une superficie six fois supérieure à celle de la Belgique.

Un autre fait physique important est que, malgré le développement stupéfiant des voies ferrées aux Etats-Unis, il y a de grandes étendues de territoire qui ne connaissent encore aucun des moyens de transport modernes. On peut, par exemple, en se servant de cartes de même échelle, mettre sur une carte de l'Orégon une carte de l'Ohio, un Etat presque la moitié aussi grand que l'Orégon, sans toucher aucun point qui soit, jusqu'à présent, traversé par un chemin de fer. Et la superficie de l'Orégon est presque égale à celle de la moitié de la France.

De plus, dans les Etats-Unis, les ressources en charbon sont en train de s'épuiser rapidement. La consommation totale de charbon y est annuellement d'un peu plus de 500.000.000 de tonnes. Etant donnée la consommation actuelle, l'anthracite disparaîtra avant la fin de ce siècle. Or, tandis que les ressources en houille, dont la quantité totale a été évaluée, peuvent durer encore des siècles, le prix du charbon augmente d'une manière persistante. Cette augmentation est, actuellement, plus que compensée par une croissante économie dans l'usage de la force vapeur. La dépense d'établissement de la force hydraulique est généralement plus élevée, par kilowatt produit, que la dépense d'établissement de la force vapeur. Dans beaucoup de cas même, l'intérêt raisonnable produit par cette différence de dépense payerait le charbon nécessaire à la fabrication de la vapeur. Ce n'est que dans des conditions exceptionnellement favorables que la force hydraulique peut, de nos jours, entrer en compétition avec la force vapeur. Toute mesure restrictive arbitraire tend à rendre les placements sur la force hydraulique plus impossibles encore. Et cependant, ces mesures restrictives mises à part, l'intérêt économique du pays demanderait que, de plus en plus, on remplaçât l'usage de la force vapeur par celui de la force hydraulique. En cela, l'économie réalisée par le consommateur n'est pas le point le plus important. Les intérêts économiques de la nation sont violés dans la mesure même où

les forces hydrauliques susceptibles d'un développement commercial sont laissées inutilisées. C'est là une perte directe, mais qui en implique une autre — la perte qui résulte de la consommation du charbon ; perte qui pourrait être évitée par l'usage des forces hydrauliques, forces qui, du fait même de leur nature, ne sont pas susceptibles d'épuisement. Quand il s'agit du charbon, le mot conservation doit signifier un usage aussi restreint que possible ou, du moins, aussi retardé que possible ; appliqué à la force hydraulique, il signifie un usage aussi étendu et aussi immédiat que possible.

Conditions constitutionnelles. De sérieuses difficultés particulières aux Etats-Unis viennent des lois de ce pays sur la propriété et de certaines dispositions de la loi constitutionnelle auxquelles toute législation doit être soumise. Le Congrès fédéral est une législature aux pouvoirs expressément limités : la Constitution fédérale écrite spécifiant ces limites. Cette loi fondamentale ne limite pas seulement les pouvoirs du Congrès fédéral, mais elle limite aussi les pouvoirs des législatures d'Etat. Cependant, tout pouvoir qui n'est pas délégué expressément par cette Constitution au Congrès fédéral, ou qui n'est pas, par elle, expressément refusé aux Etats, est réservé à ces derniers en tant que gouvernements souverains et séparés. Bien que les lois sur le droit de propriété soient généralement uniformes dans les différents Etats, elles ne le sont pas toujours en ce qui concerne certains objets de propriété. Ceci est particulièrement vrai en ce qui touche la propriété des forces hydrauliques quant au droit d'utilisation. Soumise à ces pouvoirs du Congrès fédéral expressément limités par la Constitution fédérale, la loi sur les droits de propriété concernant les forces hydrauliques est faite par chaque Etat pour son territoire (*Water Power Co, v. Water Commissioners*, 168 U. S., 358). Ce qui ne veut pas dire que la législature d'Etat puisse, en aucun temps, établir ou changer arbitrairement ces droits de propriété. La nature et l'étendue de son pouvoir à cet égard sont déterminées par l'interprétation légale telle qu'elle est déjà établie par les décisions de la plus haute cour judiciaire de cet Etat. Cela une fois établi, l'Etat ne peut pas légiférer en dérogation de ce droit de propriété sans enfreindre les défenses de la Constitution fédérale qui interdit à toute législature soit fédérale, soit d'Etat, d'empiéter sur les droits personnels ou de propriété déjà établis.

Le seul pouvoir de contrôle du Conseil fédéral sur les forces hydrauliques ou sur les cours d'eau à force hydraulique découle du pouvoir que lui a donné la Constitution fédérale de « régler le commerce » entre les Etats. Il a été admis que ce pouvoir comprenait le pouvoir de régler les moyens de commerce à l'intérieur des Etats et, par conséquent, de régir les cours d'eau commercialement navigables dans le but de protéger leur usage en vue de la navigation. De ce fait, le Congrès fédéral a défendu toute construction dans le lit des cours d'eau navigables, si ce n'est après consentement légalement accordé par le Congrès et approbation du département de la guerre des Etats-Unis et de l'Ingénieur en chef (*Chief of Engineers*). (*Act of March 3, 1899, 30 U. S. Statutes at Large, 1121.*)

Il est évident que ce texte, apprécié à sa juste valeur, est un règlement de commerce et qu'il ne concerne ni directement, ni indirectement la réglementation des forces hydrauliques considérées comme telles. Il est également évident que, le pouvoir de réglementation ne pouvant pas dépasser les limites fixées par la Constitution fédérale, le droit de réglementation des grands cours d'eau est limité aux mesures nécessaires pour la protection des intérêts de la navigation. En dehors de là, et soumis à un pouvoir fédéral ainsi limité, le pouvoir de réglementation et les autres fonctions législatives concernant les forces hydrauliques appartiennent aux Etats respectifs.

Voici donc le problème qui se pose actuellement aux Etats-Unis. Comment s'exprimera le consentement fédéral nécessaire pour l'utilisation des forces hydrauliques dans les cours d'eau navigables? Quelles sont les restrictions qui peuvent être imposées et qui seront imposées par le Congrès fédéral? D'après la nature même de la loi fondamentale, le Congrès doit se tenir dans les limites de son autorité constitutionnelle. Il ne doit ni empiéter sur les droits des Etats respectifs, ni violer les droits de propriété des individus tels qu'ils ont été établis par les lois d'Etats.

Ce problème de l'exercice du consentement fédéral est encore influencé par des vues divergentes en ce qui concerne les droits particuliers des propriétaires riverains dans les différents Etats. Ces droits individuels de propriété, établis par la loi des Etats respectifs, appartiennent en général à deux classes, selon que le droit coutumier anglais sur les droits des riverains a ou n'a pas été établi et maintenu comme loi de l'Etat sur la propriété. Dans les Etats qui se trouvent le long ou à l'ouest du Mississippi la doctrine du droit coutumier anglais prévaut. Là, soumis seulement au droit suprême de contrôle du Gouvernement fédéral et de l'Etat, le propriétaire riverain a, comme accessoire de son droit réel de propriété, non la propriété des eaux des cours d'eau dont il est riverain, mais le droit d'en user comme force hydraulique ou pour d'autres usages privés. Ce droit est un droit réel de propriété et tient à la propriété aussi bien que les autres bénéfices qui découlent de la situation ou de la nature du terrain. Un propriétaire riverain de cette catégorie possède le droit de développer et d'utiliser toute la force hydraulique qui peut être développée par le cours naturel de la rivière entre l'entrée et la sortie de son fonds. Ni ce droit ni le bénéfice de cet usage ne peuvent être enlevés ou diminués sans compensation. Le propriétaire doit cependant céder ce droit d'usage ou le modifier dans la mesure nécessaire à une plus grande utilisation du cours d'eau pour la navigation. Son droit est soumis non seulement aux besoins ordinaires de la navigation, mais aussi à l'usage des facilités de navigation qui peuvent être créées par des améliorations artificielles. Dans les Etats de l'Ouest, la loi qui a été établie d'une manière générale et qui prévaut actuellement, est cette loi dérivée de la loi hispano-romaine et d'après laquelle les droits de propriété concernant l'usage des eaux des cours d'eau pour la force, l'irrigation ou d'autres usages privés sont, indépendamment de la question de propriété riveraine, dépendants

de la priorité et de l'étendue de l'appropriation actuelle du cours d'eau.

Dans la mesure où ces droits de propriété ont été établis dans un Etat quelconque, et particulièrement là où des droits ont été acquis sous l'empire d'une loi de propriété de ce genre, ces droits acquis sont des droits qui, d'après le système de gouvernement constitutionnel des Etats-Unis, ne peuvent être ni négligés ni altérés par aucune législature, que ce soit celle du Gouvernement d'Etat ou celle du Gouvernement fédéral. Un tel empiétement est prohibé non seulement par la Constitution fédérale mais aussi par la constitution de chacun des Etats. Pour être constitutionnelle, la législation de l'Etat doit respecter les limitations exprimées dans la constitution de l'Etat et dans la Constitution fédérale. Elle doit aussi tenir compte des pouvoirs constitutionnels du Congrès fédéral pour la réglementation des cours d'eau dans l'intérêt de la navigation, c'est-à-dire pour la réglementation du commerce. De son côté, la législation du Congrès fédéral doit rester, en ce qui concerne les forces hydrauliques, dans les limites du pouvoir qui lui a été expressément délégué pour la réglementation du commerce. Cette législation doit aussi laisser aux Etats respectifs tous les autres pouvoirs de réglementation, dans la mesure où les lois de ces Etats sur la propriété ont établi ce pouvoir régulateur. En ce qui concerne les forces hydrauliques, toute législation fédérale ou d'Etat doit sauvegarder les droits acquis de propriété individuelle.

Le Congrès fédéral ne peut évidemment pas, sans sortir des limites de son pouvoir, exercer un contrôle législatif direct sur les forces hydrauliques considérées comme telles. Il n'appartient pas davantage à aucun Etat d'assumer un pouvoir législatif plein et entier sur les forces hydrauliques qui se trouvent sur son territoire. A ce point de vue, l'étendue du pouvoir législatif d'un Etat est limitée par les dispositions constitutionnelles pour la protection des droits de propriété auxquels il a été fait allusion et par les autres restrictions de ses pouvoirs qui ont déjà été indiquées. Le pouvoir de Législation fédérale ou d'Etat n'est pas mesuré seulement par la nature ou l'étendue du bien général public que cette législation pourrait produire, mais par d'autres considérations encore.

En ce qui concerne ces limitations des pouvoirs législatifs du Gouvernement fédéral et des Gouvernements d'Etat, le problème du contrôle législatif des forces hydrauliques aux Etats-Unis diffère sur plusieurs points de ce même problème en France et en d'autres contrées d'Europe.

Il y a encore une autre différence déjà indiquée : la différence qui existe entre le pouvoir de réglementation que le Congrès fédéral exerce sur les forces hydrauliques faisant partie du domaine public et celui qu'il exerce sur les forces hydrauliques appartenant aux terres riveraines situées sur de larges cours d'eau navigables en dehors du domaine public.

Conditions politiques. D'autres conditions, qui ne sont strictement parlant ni physiques ni constitutionnelles, affectent encore le problème de la force hydraulique aux Etats-Unis. Ces conditions sont, de leur nature,

plutôt subjectives ; ce sont des questions de tempérament. Elles naissent de l'attitude morale prise par certains législateurs et certains citoyens dont le système, en ce qui touche la force hydraulique, est incompatible avec les conditions physiques du pays, ou opposé à la loi constitutionnelle actuelle. Bien que ces systèmes particuliers ne représentent pas, à proprement parler, des programmes politiques, leur influence fait néanmoins obstacle à une législation plus favorable à la question des forces hydrauliques. C'est pourquoi ces influences peuvent être, par extension, considérées comme des conditions politiques.

Aux Etats-Unis, lorsque les limites du pouvoir législatif, telles qu'elles sont déterminées par la Constitution, sont dépassées, les tribunaux ont le droit de le déclarer, et leur décision est finale en cette matière. Quand un tribunal doit juger de la nature constitutionnelle d'une loi, la présomption est que la législature n'a pas excédé ses pouvoirs, et que, dans la mesure de son pouvoir discrétionnaire, elle a exercé ce pouvoir sagement. Il faut que le contraire soit prouvé, sans qu'aucun doute reste possible, pour que les tribunaux frappent de nullité un acte d'une législature. En théorie, notre Gouvernement constitutionnel présume qu'en élaborant un statut, le corps législatif fera son possible pour se garder de toute législation inconstitutionnelle, et, s'il devient évident qu'une semblable législation ait été cependant décrétée, il estime que c'est le résultat d'une interprétation erronée mais consciencieuse de la portée et de l'effet des dispositions constitutionnelles existantes. Mais cette théorie n'est pas appliquée dans la pratique. Il y a, de la part des législateurs fédéraux ou d'Etat, une tendance croissante à dédaigner ou à tenter de tourner les prohibitions constitutionnelles. La tendance est de faire des lois s'accordant le plus possible avec les exigences présentes de l'opinion populaire et de laisser aux seuls tribunaux le soin d'examiner les statuts après qu'ils ont été décrétés, et de discerner les statuts ou les dispositions des statuts, qui sont évidemment contraires à la loi fondamentale et doivent, en conséquence, être rejetés comme nuls. Les tendances du législateur moderne se manifestent par un dédain presque téméraire des limitations constitutionnelles. Il semble disposé non seulement à léser les droits individuels et de propriété, autant que les limites posées par les prohibitions constitutionnelles peuvent le permettre, mais à franchir ces limites, autant que semble le demander la mentalité présente des électeurs. Il se dispense d'apprécier la législation d'après la Constitution et laisse cette responsabilité tout entière aux tribunaux. Je n'hésite pas à dire que cette tendance à atteindre et à dépasser les limites de leurs pouvoirs constitutionnels est, de nos jours, si dominante chez les législateurs fédéraux ou d'Etat que des statuts sont souvent décrétés aux Etats-Unis qui seraient rejetés par les Parlements du Canada ou de l'Angleterre, ou par les corps législatifs d'autres pays dont les pouvoirs de législation s'appuient sur le sage exercice d'un pouvoir discrétionnaire large et illimité, et qui en seraient rejetés à cause même de leur empiétement sur les droits individuels

ou de propriété. Cette tendance des législateurs à méconnaître les limites de leurs pouvoirs a été censurée par la Cour fédérale suprême. Voici comment cette cour s'est exprimée dans l'affaire *Knoxville vs. Water Company*, 212 U. S. 1, 18 :

« Bien que les tribunaux soient prêts à remplir leur devoir lorsqu'il y a évidence, ils ne devraient pas être les seuls à porter le fardeau lorsqu'il s'agit de sauver la propriété de la confiscation. Les législatures et autres corps subordonnés, auxquels le pouvoir législatif a été délégué, devraient prendre leur part de ce fardeau. Notre système social s'appuie largement sur la sainteté de la propriété privée, et tout Etat ou communauté qui cherchera à s'attaquer à elle découvrira vite son erreur par les désastres qui s'ensuivront. »

Cette pernicieuse tendance des législateurs entrave les efforts faits pour édicter une sage réglementation des forces hydrauliques.

Ce qui vient d'être dit nous amène à parler d'une autre condition intéressant la question des forces hydrauliques. Je veux parler de l'influence de ceux qui voudraient obtenir des modifications, des changements et même la suspension des limitations constitutionnelles au moyen d'interprétations judiciaires ou par d'autres méthodes détournées, au lieu de demander au législateur une modification expresse. Ils insistent pour que, par interprétation, et en considérant le soi-disant « pouvoir de police » du Gouvernement comme supérieur à toute disposition de la loi fondamentale, les tribunaux arrivent à tourner les limitations constitutionnelles et laissent ainsi aux législateurs toute liberté dans leurs efforts pour légiférer en dérogation des droits de propriété. La législation que, sous prétexte du bien public, ces agitateurs demandent aux tribunaux de mettre en vigueur confisquerait de fait, au profit du Gouvernement fédéral et du Gouvernement de l'Etat, la propriété de toutes les forces hydrauliques naturelles du pays, et tout droit aux revenus et bénéfices qui découleraient du développement et de l'utilisation de ces forces. C'est en plaçant ces vues extrêmes que de semblables théoriciens ont fait obstacle à l'adoption d'une sage législation des forces hydrauliques.

Une influence de même nature est exercée par ceux qui réclament une plus grande centralisation des pouvoirs dans le Gouvernement fédéral et qui, par une législation empiétant sur les droits des Etats respectifs et sur les droits de propriété de leurs citoyens, voudraient faire du Gouvernement fédéral un gouvernement paternaliste qui, tout en paraissant réglementer le commerce, mettrait la main sur l'industrie, et qui, de fait, posséderait et mettrait en action, dans le pays entier, tous les moyens de commerce, de transport et de communication.

Ces influences obstructives et d'autres encore sont, dans une certaine mesure, de tendance socialiste ; les socialistes aux Etats-Unis concentrent, en effet, toute l'opposition active qu'ils font aux institutions existantes dans leurs attaques contre les limitations de la Constitution. Leurs efforts tendent

à favoriser le mépris de cette Constitution. Ils voudraient que les tribunaux refusassent d'admettre les prohibitions constitutionnelles en ce qui touche la Législation. Ils prétendent que ce n'est que par usurpation que les tribunaux eux-mêmes exercent la fonction judiciaire de déclarer les lois inconstitutionnelles. Ils voudraient les dépouiller de l'exercice de cette fonction et ouvrir la voie à la suppression du droit de propriété en investissant ceux qui votent la loi du pouvoir direct et arbitraire, non seulement de proposer et de voter des statuts, mais encore d'imposer leur volonté aux tribunaux en ce qui touche l'exécution de tous les statuts, et cela, sans tenir compte de la Constitution.

Si paradoxal que cela puisse paraître, il n'en est pas moins vrai qu'aux Etats-Unis l'influence la plus nuisible à la conservation des forces hydrauliques est l'influence exercée par quelques agitateurs qui s'arrogent le titre de « conservateurs » (« conservationists »).

Comme les placements de capitaux privés sont indispensables au développement de la force hydraulique, un conservateur logique devrait favoriser une législation offrant des conditions de nature à attirer de semblables placements. Celui qui, soit comme citoyen, soit comme législateur, empêche une telle législation n'est pas un conservateur. C'est un obstructionniste. Quand un tel obstructionniste cherche à exciter des préjugés contre une législation réparatrice en répandant de fausses informations parmi les législateurs et parmi le peuple, et quand il cherche à avancer ses propres ambitions politiques en faisant, dans les journaux, de la réclame pour lui et pour ses sophismes, il devient ce que nous appelons, en Amérique, un démagogue. Nous avons, en Amérique, beaucoup de semblables pseudo-conservateurs, dont la funeste influence a retardé la législation de la force hydraulique et qui, maintenant, s'opposent aux sincères tentatives faites pour l'émission des lois réparatrices et efficaces. Un de ces derniers, actuellement candidat pour un siège de sénateur des Etats-Unis, est à la tête d'une organisation qui, en ce qui concerne les forces hydrauliques, est très fausement appelée un Congrès de « Conservation ».

Ce groupe d'agitateurs mène actuellement une campagne organisée dans le but de créer, dans l'esprit du public et dans celui des membres du Congrès fédéral, des préjugés contre la suppression des obstacles opposés par la législation actuelle aux placements sur la force hydraulique. Leur conception de la « conservation » des forces hydrauliques a pour effet de retarder et d'empêcher l'utilisation de ces forces. Ils disent, qu'au moyen de statuts édictés à cet effet, le Gouvernement fédéral devrait revendiquer un contrôle législatif sur toutes les forces hydrauliques de tous les cours d'eau et de leurs tributaires, petits et grands, et sur toutes les chutes déjà aménagées. Ils voudraient répudier les droits de propriété privée, établis par les lois des Etats au profit des riverains ; décréter et mettre en vigueur une législation qui priverait les terres riveraines et leurs propriétaires du bénéfice et de l'usage des forces hydrauliques. Ils voudraient confisquer soit les forces

hydrauliques elles-mêmes, soit leur produit, au profit du Gouvernement général considéré comme gardien des droits de l'ensemble de la nation. Et c'est par des méthodes peu loyales, par le mépris des sauvegardes constitutionnelles qui protègent les droits de propriété, qu'ils voudraient décréter et mettre en vigueur une pareille législation.

Ils préféreraient que leur plan fût réalisé par le Congrès fédéral lui-même, qui aurait alors pour prétexte d'exercer le pouvoir limité qu'il a de réglementer le commerce. Il est évident qu'une législation fédérale de cette nature empiéterait non seulement sur les droits de propriété dans la plupart des Etats, mais qu'elle empiéterait aussi sur le pouvoir de contrôle réservé aux Etats. De plus, elle priverait les Etats riches en ressources hydrauliques, et leurs citoyens, de tout bénéfice légal des ressources de ce genre qui lui appartiennent ou qui appartiennent en particulier aux propriétaires riverains. Dans le cas où un tel résultat ne pourrait pas être effectué par la Législation fédérale, les outranciers dont il est ici question voudraient voir ces mêmes pouvoirs de législation exercés par les Etats respectifs.

Ces agitateurs ne représentent ni le progrès ni la réforme. Ils se soucient aussi peu que n'importe quel socialiste de la loi fondamentale. La législation qu'ils favorisent est impossible avec notre système de gouvernement, parce qu'elle serait incompatible avec la conception du pouvoir législatif telle que l'admettent les juristes et les hommes de loi. Mais l'insistance avec laquelle ils prônent leurs idées réussit, du moins, à obscurcir les problèmes que les législateurs ont à résoudre et à en rendre la solution plus difficile.

Un simple résumé des faits, objectivement exposés, ne suffirait pas à donner une idée adéquate du problème de l'utilisation de la force hydraulique aux Etats-Unis. Ce résumé suffirait beaucoup moins encore à expliquer les difficultés qui ont, pendant si longtemps, empêché sa solution. Aussi, ne me suis-je pas borné à montrer par des chiffres l'absence d'utilisation des forces hydrauliques, ni à énumérer les mesures législatives actuellement en vigueur et celles dont la promulgation est proposée. Le problème de la force hydraulique aux Etats-Unis implique une contestation entre différentes théories de législation. Les influences d'obstruction sont en grande mesure subjectives et leur persistance constitue la cause principale de la persistance des obstacles et, par là, la cause principale de la stagnation des progrès de la force hydraulique dans notre pays. Ayant expliqué la nature des conditions qui affectent la législation, je parlerai brièvement des lois qui régissent actuellement les forces hydrauliques aux Etats-Unis et de la législation proposée en vue de promouvoir leur utilisation.

Législation fédérale.

Tout ce qui a été dit des retards causés par la Législation fédérale et des modifications proposées pour cette législation concerne trois espèces de contrôle fédéral des forces hydrauliques.

Forces hydrauliques sur le Domaine public. Le « Domaine public » comprend les différents districts situés pour la plupart dans les Etats de l'extrême Ouest et possédés par le Gouvernement fédéral en vertu d'un titre qui est, de sa nature, un titre de propriété et non un simple droit souverain de contrôle et de réglementation en vue d'un intérêt public spécial. Ces terres renferment la plupart de celles qui sont considérées comme les réserves forestières. A cette classe de terres se trouvent jointes les forces hydrauliques qui ne font point partie du domaine public, mais qui ne pourraient être utilisées sans un usage plus ou moins grand des terres appartenant à ce domaine, soit pour la canalisation, le passage des lignes de transmission de l'énergie ou d'autres travaux.

Lorsqu'il veut utiliser les forces hydrauliques qui font partie du domaine public, le capitaliste doit, tout d'abord, obtenir une autorisation du Département du Gouvernement qui a une compétence sur la terre en question. Ce département est généralement celui de l'Intérieur. L'autorisation doit comprendre le droit de construire, entretenir et mettre en œuvre le barrage, le matériel et les lignes de transmission. Mais cette autorisation est révocable à volonté par le département qui l'a accordée et elle est soumise à toutes les conditions que ce département peut imposer ; non seulement au moment où l'autorisation est accordée, mais postérieurement. En fait, cette autorisation peut être automatiquement révoquée en certaines circonstances ; par exemple, par la soumission d'un tiers à la loi du homestead ou à la loi sur les mines (Acts of Feb. 26, 1897, June 4, 1897, Feb. 15, 1901, and Feb. 1 1905).

Ce pouvoir illimité de poser des conditions à l'autorisation et d'en changer les conditions, permet au chef du Département d'exiger des redevances pécuniaires dont l'importance dépend parfois de la discrétion de ce fonctionnaire, qui n'a ni le pouvoir d'accorder une autorisation qui donnerait aux placements la stabilité pendant un temps déterminé, ni le pouvoir de mettre la durée et les conditions de cette autorisation à l'abri d'éventualités illimitées. Le capital privé a hésité en face de conditions aussi peu pratiques. Sur plus de 5.000.000 de kilowatts de force hydraulique soumis à la loi du domaine public et qui sont actuellement susceptibles d'un emploi commercial, moins d'un dixième a été utilisé.

Mais ces lois prohibitives ne s'appliquent pas seulement aux forces hydrauliques faisant partie du domaine public. Il y a des millions de kilowatts de force hydraulique utilisable qui sont situés de telle sorte qu'ils ne pourraient être utilisés sans quelque usage du domaine public, soit pour les travaux d'aménagement soit pour le passage des lignes de transmission. Sous le régime légal actuel, l'usage accidentel, si petit soit-il, d'une partie quelconque du domaine public est soumis aux autorisations des fonctionnaires du gouvernement ; autorisations toujours révocables à volonté et sujettes à toutes les conditions et changements de conditions que veut leur imposer le fonctionnaire qui a accordé l'autorisation. Tout ceci rend la tenure

si incertaine, les conditions si indéfiniment changeantes, que l'utilisation de cette classe de forces hydrauliques a été pendant des années et est encore complètement arrêtée.

Forces hydrauliques des cours d'eau navigables. Viennent ensuite les forces hydrauliques sur les cours d'eau navigables qui se trouvent en dehors du domaine public. Le Gouvernement fédéral n'a sur ces cours d'eau que le pouvoir de contrôle qui découle de son pouvoir constitutionnel limité à la réglementation du commerce. Ceci n'est à aucun point de vue un droit ou un intérêt de propriétaire. C'est tout simplement un droit de contrôle, souverain mais limité au but particulier qui vient d'être indiqué. Soumis seulement à ce droit de contrôle, tous les droits de réglementation et de propriétaire sur l'usage et les bénéfices des forces hydrauliques appartiennent aux Etats et à leurs citoyens, le règlement des droits de propriété étant fixé par la loi des Etats respectifs.

L'acte, déjà cité, du 3 mars 1899 stipule, conformément au pouvoir constitutionnel du Congrès de réglementer le commerce, qu'aucun barrage de forces hydrauliques, ni aucun autre ouvrage pouvant faire obstruction, ne sera construit dans les cours d'eau navigables sans le consentement du Congrès. Cette prohibition et ce droit réservé de consentement ne sont logiquement maintenus qu'en vue de protéger l'usage présent et futur des cours d'eau en vue de la navigation. Jusqu'en 1906, le consentement stipulé avait été, conformément au statut de 1899 et à d'autres statuts antérieurs et similaires, accordé chaque fois par un acte spécial du Congrès. Chacun de ces consentements donnés en forme de loi contenait des dispositions sur lesquelles le Congrès et le capitaliste en faveur duquel la concession était consentie avaient à se mettre d'accord. Ces différents actes particuliers varient par la nature de leurs conditions; mais la plupart d'entre eux ont autorisé les constructions et maintenu les droits acquis. Néanmoins la tendance de la législation à méconnaître les droits privés de propriété et les placements faits de bonne foi se manifeste dans la prétention souvent soutenue, que le pouvoir général de révocation et d'amendement réservé dans ces actes particuliers a pour conséquence de soumettre légalement ces placements à toutes les charges et conditions qui pourront, en tout temps, leur être arbitrairement imposées par le Congrès.

Cette prétention est née, non seulement de la tendance croissante des législateurs à méconnaître, aussi bien en équité qu'en droit, les droits acquis aux placements déjà effectués; mais encore de l'influence croissante de cette classe d'agitateurs, dont il a déjà été parlé et qui prétendent faussement représenter la cause de la conservation. Méprisant les restrictions constitutionnelles de la législation des forces hydrauliques, ils soutiennent que, ces forces ne pouvant être légalement utilisées qu'après autorisation du Congrès, le Congrès peut, en conséquence, attacher à cette autorisation toutes les conditions qu'il lui plaira d'établir; qu'il peut légalement imposer n'importe quelle charge au concessionnaire et réserver au Gouvernement tout

droit à une redevance ou à d'autres avantages ; et cela comme conditions de son consentement. Ce que la constitution ne permet pas directement, bien plus, ce qu'elle défend, ils voudraient l'accomplir par des voies détournées. Ils demandent avec instance une législation par laquelle les avantages qui découlent de l'utilisation et des ressources de la force hydraulique, passeraient des Etats dans lesquels cette force est située, ou des individus qui la possèdent légalement, au Gouvernement fédéral considéré comme représentant de la masse du peuple américain.

La défense de cette théorie de conservation et les contestations soulevées au sujet de son application légale ont été, aux Etats-Unis, la plus grande cause du manque d'une législation favorisant l'utilisation de la force hydraulique. Par les actes du 21 Juin 1906 et du 23 Juin 1910, on s'était proposé d'établir les conditions légales de tout consentement du Congrès, de manière à ce que, dans la suite, les conditions fixées par ces lois fassent partie de tout consentement accordé. Ce fut la fallacieuse théorie de conservation dont il a déjà été parlé, qui donna un caractère prohibitif à ces actes qui auraient dû favoriser les placements privés. Ce sont encore ces pseudo-conservateurs qui demandent de nouvelles restrictions législatives et de nouvelles charges pour les placements, et qui, par leurs instances, harcèlent les législateurs et l'administration actuelle de Washington dans leurs tentatives sincères en vue d'édicter une législation qui écarterait les obstacles mis aux placements privés par la législation actuelle.

Par ces actes de 1906 et de 1910, la durée de l'autorisation ne peut pas dépasser cinquante ans. Bien plus, même avant l'expiration de ce terme, l'autorisation peut être en tout temps arbitrairement révoquée sans qu'il soit rendu au concessionnaire plus d'une partie du placement qu'il a dû faire. Afin de rentrer dans ses avances de fonds, le concessionnaire doit donc, pendant le temps limité de son contrat, demander à ses consommateurs un prix excessif. Il n'est tenu aucun compte du fait que le concessionnaire doit souvent attendre cinq, dix ans et plus avant d'avoir trouvé des débouchés suffisants pour la consommation de tous les produits de son exploitation. Etant donné le prix très élevé qu'il est obligé de demander, il ne peut pas, en beaucoup d'endroits, soutenir la concurrence avec la force vapeur : concurrence très sérieuse par le fait du coût actuel de la force vapeur. L'avantage reste tout à fait à celle-ci en certaines localités. Ces actes réservent encore au Département de la Guerre le pouvoir d'imposer des conditions à l'autorisation qu'il doit donner d'après l'acte du Congrès et de changer ces conditions à volonté. Aucune limite fixe n'étant posée aux conditions et aux charges qui peuvent être imposées, les bases de l'autorisation et les conditions à remplir demeurent vagues et incertaines.

Ces actes et le système qu'ils impliquent ont, en ce qui concerne les placements, un caractère si prohibitif que les capitalistes, presque sans exception, ont refusé de demander ou d'accepter les autorisations accordées d'après ces actes. Leur effet prohibitif sur les placements et, conséquemment,

sur l'utilisation des forces hydrauliques, a été démontré par l'expérience. Les rapports faits au Congrès, par ceux qui, officiellement ou autrement, ont examiné la question, démontrent à tous ceux qui cherchent vraiment une solution pratique du problème, les insuffisances de la loi actuelle. (Report, National Waterways Commission, Senate Document 469, 62nd Congress, 2nd Session, page 54.)

Le Congrès est actuellement en train de se débattre contre cette question de la force hydraulique. Ceux qui comprennent la situation cherchent à écarter suffisamment les obstacles élevés par la législation actuelle pour offrir aux placements privés des clauses et des conditions qui puissent être acceptées par des hommes d'affaires. Ils voudraient que les conditions posées à l'autorisation du Gouvernement soient assez larges pour assurer la préservation de tous les intérêts présents et futurs de la navigation. Mais ils voudraient aussi que toutes les charges et conditions imposées au capitaliste soient si bien spécifiées et définies, que le concessionnaire puisse connaître à l'avance et d'une manière définitive l'importance du placement qu'il aura à faire. Ils voudraient que l'autorisation fût accordée pour un temps indéterminé et qu'elle ne pût être révoquée sans cause, ou que, du moins, elle fût, à son expiration, renouvelable dans des conditions raisonnables ; ce qui assurerait aux placements une stabilité suffisante et écarterait la nécessité d'exiger des consommateurs un prix excessif. On propose de laisser aux Commissions des Etats respectifs le soin de fixer le prix à payer par les consommateurs. Les intérêts du public seraient protégés par des dispositions très larges permettant de révoquer l'autorisation donnée au concessionnaire quand celui-ci ne remplirait pas les conditions imposées.

Cette législation réparatrice sera-t-elle décrétée ?

Cela dépend de la mesure dans laquelle les pseudo-conservateurs, dont il a déjà été parlé, seront capables d'exercer leur influence contre les mesures actuellement à l'étude. Ces obstructionnistes mènent actuellement une campagne dans le but de créer des préjugés dans l'esprit du grand public et dans l'esprit des membres du Congrès, contre ces mesures constructives et réparatrices. Pendant ce temps, les membres influents du Congrès, généralement bien informés de la question, s'efforcent, sans s'inquiéter des partis politiques, de se joindre à l'administration présente pour tenter de décréter la seule législation capable d'écarter les obstacles législatifs actuels au développement de la force hydraulique.

Forces motrices des écluses de navigation du Gouvernement. Il y a une troisième classe de forces hydrauliques qui n'est pas comprise dans les deux déjà citées. Ces forces sont aussi sous le contrôle fédéral, mais sous un contrôle qui repose sur une base différente.

Le Gouvernement fédéral construit parfois à ses frais des écluses de navigation pour l'usage général du public. L'eau qui, à ces écluses, n'est pas nécessairement employée pour la navigation, offre une force hydraulique qui est développée entre l'entrée et la sortie de l'écluse. C'est là une force hydrau-

lique accessoire. Cependant le Gouvernement ayant acquis les droits de riverain pour l'amélioration de la navigation devient, par là, propriétaire de cette force hydraulique accessoire. L'étendue de ses intérêts de propriétaire dépend de la mesure dans laquelle il a acquis les droits de riverain ; car, ainsi que nous l'avons dit, les intérêts du propriétaire sont attachés à ses droits comme riverain. Cela dépend aussi, naturellement, de la mesure dans laquelle la loi de l'Etat dans laquelle l'écluse est située donne au propriétaire riverain les droits de propriété pour l'usage des forces hydrauliques qui dépendent de sa terre.

Quand le Gouvernement a acquis tous les droits de riverain auxquels les forces hydrauliques sont sujettes, et a, à ses frais, construit une écluse de navigation, la force hydraulique qui se trouve là accessoirement développée est légitimement considérée comme appartenant au Gouvernement qui peut, comme tout autre propriétaire, la concéder, l'affermier ou la vendre.

Mais dans beaucoup de cas les conditions physiques rendraient le développement de la force hydraulique tout seul trop coûteux pour donner un juste intérêt des intérêts placés. D'autre part, les travaux faits par le Gouvernement en vue de l'amélioration de la navigation pourraient être trop onéreux par rapport aux résultats obtenus soit pour la navigation, soit pour le développement accessoire de la force hydraulique. Dans les cas de ce genre le mieux pour les intérêts publics serait une coopération entre le Gouvernement, poursuivant les intérêts de la navigation, et l'initiative privée qui chercherait à utiliser la force hydraulique. Ces cas sont résolus par un système de contrat coopératif, par lequel le capitaliste fournit la part de capitaux qu'il peut économiquement fournir et le Gouvernement fait la balance. Par là, on procure tout à la fois l'amélioration de la navigation et le développement des forces hydrauliques. Les termes de ce contrat varient selon les conditions de chaque cas particulier. Ce qui vient d'être dit s'applique à ces écluses qui, aux yeux du Gouvernement, sont tout d'abord des écluses de navigation, qui ne peuvent être construites sans des conventions spéciales.

Lorsqu'un barrage pour la force hydraulique est construit, avec l'autorisation du Gouvernement, par des capitaux privés, dans un cours d'eau navigable, le concessionnaire doit, dans la mesure compatible avec les justes intérêts qu'il peut attendre des capitaux placés, construire et entretenir, sans frais pour le Gouvernement, tout ce qui peut faciliter la navigation, et cela, comme partie et suite de l'utilisation de sa force hydraulique. C'est ainsi qu'on en a jugé dans le passé et qu'en jugerait la législation proposée. On estime que cette charge peut être légitimement imposée par le pouvoir de contrôle exercé en faveur des intérêts de la navigation.

Législation d'Etat.

En ce qui concerne le contrôle exercé par l'Etat sur les forces hydrauliques aux Etats-Unis, je n'ai que peu de chose à ajouter à ce qui a déjà été dit.

Chaque Etat, étant du reste soumis à l'exercice du pouvoir fédéral de contrôle qui a été défini, a tout droit de contrôle sur tous les cours d'eau, ou portions de cours d'eau, navigables ou non, qui sont situés sur son territoire, et sur les forces hydrauliques de ces cours d'eau. Cela ne veut pas dire que chaque Etat puisse légiférer de manière à se faire des forces hydrauliques qu'il renferme une source d'avantages ou de revenus directs. Chaque Etat et sa législature sont liés par la loi sur les droits de propriété des forces hydrauliques ; loi qui a été établie dans cet Etat et d'après laquelle les droits acquis doivent être maintenus. Ceci rend la juridiction des Etats sur les forces hydrauliques quelque peu variable. D'une manière générale, dans tout Etat où la loi sur la propriété publique et le contrôle des forces hydrauliques a été établie comme loi de propriété de l'Etat, un statut basé sur cette propriété publique et sur ce contrôle, et tenant compte des droits particuliers de propriété dans cet Etat, serait un statut constitutionnel et qui pourrait être mis en vigueur. Dans ces Etats les droits individuels sur la force hydraulique sont garantis par des lois qui réglementent les permis d'appropriation tout en contrôlant et en limitant le droit d'usage privé. Ces Etats sont ceux qui se trouvent parmi les Etats situés à l'Ouest du Mississippi dans lesquels la loi sur la propriété riveraine ou bien n'a jamais été établie, ou bien n'a été établie que sous une forme modifiée.

Mais la règle est différente pour les Etats dont j'ai parlé et qui se trouvent le long ou à l'est du Mississippi, et dans lesquels la loi sur les droits des riverains des cours d'eau, navigables ou non, a considéré ces droits comme droits de propriété. Dans ces Etats, un statut qui serait basé sur le principe que les forces hydrauliques sont une ressource appartenant à l'Etat tout entier, ou que les avantages et les revenus qui découlent du développement des forces hydrauliques appartiennent tout d'abord à l'Etat entier, un tel statut serait inconstitutionnel. Les tribunaux le déclareraient nul comme confisquant les droits acquis de la propriété riveraine privée. Il ne faut pas perdre de vue que les droits acquis de propriété dont il vient d'être parlé ne sont pas limités à un simple droit sur les avantages des forces hydrauliques actuellement développées. Le droit de développement, c'est-à-dire le droit d'utiliser les forces hydrauliques dépendant de la terre riveraine, que ces forces soient ou non développées, est lui-même un accessoire du droit réel de propriété. Ainsi que le disent les livres, c'est un droit appartenant à la terre riveraine *jure naturæ*. D'après notre loi, la seule différence entre les cours d'eau navigables et ceux qui ne le sont pas est que, lorsqu'il s'agit de ceux-là, le droit de propriété est soumis à l'exercice du suprême contrôle fédéral, dans le but spécifié de protéger les intérêts de la navigation.

Dans la rédaction de la législation d'Etat sur la force hydraulique, ces distinctions sont souvent négligées. Quelques Etats ont formé des commissions pour le contrôle des forces hydrauliques, d'après des statuts qui envisagent d'une façon trop large le droit public de propriété et de contrôle et qui restreignent jusqu'à la confiscation les droits acquis des propriétaires

riverains. La mesure dans laquelle de semblables statuts peuvent être mis en vigueur est cependant soumise au contrôle des tribunaux.

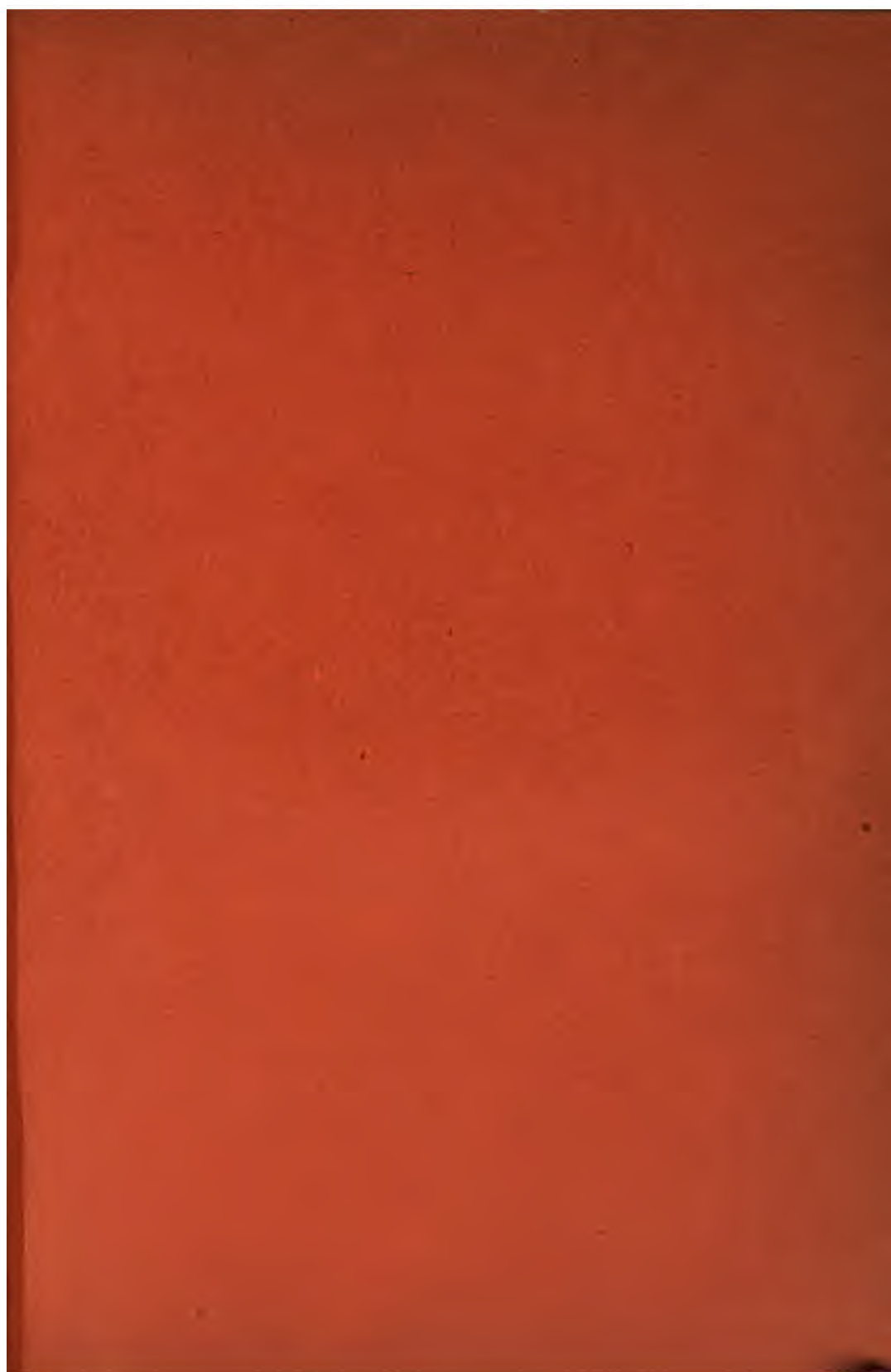
Dans certains Etats les tribunaux se sont déjà déclarés contraires à ces tentatives de confiscation. Il y a deux ans, la législature du Wisconsin édicta un statut basé sur la théorie que l'Etat a la propriété et le contrôle des forces hydrauliques et qui visait, en somme, à répudier la loi de propriété riveraine. La cour suprême du Wisconsin se hâta de déclarer ce statut nul, par le motif qu'il violait les droits établis de propriété privée appartenant aux terres riveraines (*State ex. rel Wansan Street Railway vs. Bancroft*, 148 Wis., 124).

On peut dire néanmoins que les différents Etats désirent vivement le développement et l'utilisation de leurs ressources hydrauliques respectives, et que, si la législation des forces hydrauliques était limitée à la législation des Etats, on n'aurait actuellement à constater aucun manque de progrès dans l'utilisation de ces forces aux Etats-Unis. Ce qu'il nous faut à présent, ce ne sont pas les petits aménagements de force hydraulique, comme ceux qui peuvent être faits sur les petits cours d'eau non navigables, ce qu'il nous faut, c'est le développement des forces hydrauliques sur les grandes « rivières navigables » du pays. Et ce terme ne s'applique pas seulement aux rivières actuellement navigables, mais aussi à toutes les rivières et portions de rivières qui sont raisonnablement susceptibles d'amélioration artificielle en vue de la navigation commerciale et, par conséquent, à ces cours d'eau dans lesquels sont généralement situées toutes les grandes ressources hydrauliques du pays. La législation d'Etat ne pourra jamais amener l'utilisation de ces forces hydrauliques tant que la législation fédérale n'aura pas été modifiée de manière à assurer une sécurité raisonnable aux placements faits en vue du développement de ces forces.

Aux Etats-Unis, les capitaux destinés à l'utilisation de la force hydraulique attendent actuellement la suppression des obstacles apportés par la législation fédérale aux placements sur ces forces. Tant que ces obstacles n'auront pas été écartés, les grandes forces hydrauliques des Etats-Unis continueront à se perdre. Et, pendant ce temps, ce sont des pays étrangers, dont la politique législative est moins meurtrière, qui profitent du développement industriel que leur utilisation procurerait à notre pays.

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LAWS AND REGULATIONS REGARDING THE USE OF WATER IN PAN-AMERICAN COUNTRIES

PAPER BEFORE THE SECOND PAN-AMERICAN SCIENTIFIC CONGRESS,
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JANUARY 8, 1916

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For Spanish translation of this Paper, see pp. 27 to 55.
(Para la versión Castellana de este Artículo, vease las paginas 27 á 55.)

SCOPE OF THIS DISCUSSION

The proper utilization of the natural resources of the Pan-American countries is of the greatest importance to their internal development, as well as to their industrial and political relations with each other. Of all such natural resources there are none which constitute so valuable a gift of nature, and which are so essentially a potential source of commercial and industrial growth, as the uses of water which are there everywhere available.

Mineral deposits, whether in the form of coal, iron, nitrates, or other minerals, are limited in quantity, comparatively hidden as to their location, and, from their very nature, being not susceptible of renewal, they are, therefore, exhaustible. Timber resources, although renewed by nature, are, nevertheless, in one sense of the word, limited and exhaustible.

Water resources, on the other hand, are the constantly disclosed, ever available, and continuously renewed sources of nature's bounty to man. Whether it be the small creek flowing through an upland farm, barely supplying to the owner, family and stock and to his limited acres of tillage the needs which his own private uses require, or a great continental stream, bearing upon its waters the commerce between inland ports and the sea and fed by its upper mountain reaches wasting their latent energies through unharnessed falls,—the fresh water streams of these

countries are ever present, ever renewed, and, therefore, inexhaustible, resources for industrial supremacy.

From the national viewpoint, the three great uses to which such streams are susceptible are those of navigation, irrigation, and water power. It is the latter, the development of water power, with which this paper is primarily concerned.

Water power, whether developed or undeveloped, denotes energy. It is, therefore, a part of the many phases of energy which comprise the possible and actual life and success of the country within which it is located. With every fall of water in a natural stream, whether it be the sluggish current in a deep water basin or the cataract from the mountain heights, is constantly exerted the energy which is denoted by the product of the actual weight of the falling water and the number of feet-seconds through which that quantity passes from a higher to a lower elevation. That energy, in other words, is the number of foot-pounds per second of the falling water. We burn a ton of coal for the purpose of developing and utilizing the latent energy stored in the coal, and we find that by such process we obtain from a ton of coal the equivalent of the use of about one horse power of energy for the period of one month. This, again, is equivalent to the use of about one kilowatt of energy for about three weeks. That energy is developed by the mere burning of the coal. If, as so developed, it is utilized, it drives turbines for manufactures, or heats homes and workshops, or helps to turn darkness into light. If it is not utilized, it is forever wasted and becomes a part of the great useless wastes of nature which can never be recouped. The energy of the waterfall, however, is not latent. That energy is a part of the constantly acting force of gravitation. It is ever present and, unless utilized, is forever wasted.

Conservation, therefore, of the natural resources of a country demands the greatest and most immediate prevention of this constantly wasting energy from undeveloped water powers and of the quickest and most extensive utilization which can possibly be made consistently with proper protection of the interests of individuals and of the public at large.

Formerly the principal reason for the retardation of this utilization of the wasting energies of water power was the lack of means of transmission for use in localities at a distance from the source of power. But the progress in recent years in

electrical science has made commercially feasible the use of immense water-power facilities which theretofore were running to waste. Nevertheless, there is not a country in all America where the commercial demands for water-power development are not to a large extent unfulfilled, and where immense numbers of kilowatts of water-power energy are not wasting.

The cause of this uneconomic waste in all countries is, that legislation for the regulation and use of water resources, instead of promoting their use, has become an obstacle to their use. Legislation has not kept pace with the progress in the science of water-power development and use.

It is, therefore, the main scope of this paper to summarize, with reference to the uses of water, and particularly of water powers, the laws and regulations existing under public authority in the Pan-American countries and especially to note certain ways in which such laws are obstacles to that utilization of these resources which would otherwise be made; as well as to suggest possible remedies in such legislation.

GENERAL SOURCES OF THE LAW

In most Pan-American countries, with the exception of the United States, the sources of the law of water rights are, as other phases of their laws, Spanish law. The fundamental principles of the Spanish law, as applied in these countries, was further confirmed or modified by the introduction into their Colonial law of certain principles of the French law. Further modifications have been caused by local and partial recognition and adoption of principles of law which are more peculiarly those of the United States, where the law of waters is generally founded upon that of the English law. But in the United States, wide modifications from the English law have been made to suit the physical conditions peculiar to our country and not characteristic of the mother country to which the English law was adapted.

First then as to these original sources:

Spanish Law:—The groundwork of the Spanish-American legal system was inherited from Spain; and in fact the Spanish law was in force in Spanish America (subject only to such modifications as were introduced by the special laws or decrees promulgated for the Colonies), until the Independence. It continued in force in the various countries until modified by new statutory

enactments, which chiefly took the form of Codes, modelled largely on the Napoleonic Codes. A word or two as to the old Spanish law may therefore serve as a fitting introduction.

The *Siete Partidas*, the great medieval Code, whose principles still permeate Spanish or Spanish-American jurisprudence, divide "*things*" into common things (*comunes*), those belonging to private persons, and those consecrated to the service of God (Partida 3; Title 28, Law 2). There was a curious subdivision of *common* things into (*a*) those common to all living creatures, viz.: the air, rain waters, the sea and its shores (*id.*, Law 3); (*b*) those common to all mankind, viz.: rivers, ports and highways (*id.*, Law 6); and (*c*) the common property of cities and towns to be used only by the inhabitants thereof. This included fountains which played such a prominent part in Spanish life (*id.*, Laws 9 and 10). Law 6 just cited is especially interesting. It provided, following the Roman law, that rivers are common to all men, to strangers as well as to the local inhabitants, and that regardless of the ownership of the adjacent land, all mankind can use the banks for mooring, fishing, displaying and selling merchandise and similar uses. It was provided (Law 8) that no mill or structure of any kind could be set up in a navigable river or on its banks, or canal built, for the reason that it might interfere with the common use of mankind; for, says the law, it would not be a meet thing that the common benefit of all mankind should be disturbed for the benefit of one; but ancient structures were not to be torn down so long as they did not disturb the common use.

Other passages, however, in the *Partidas* are interesting as showing that, in spite of the declaration above cited that rivers and rain water were common either to all living creatures or to all mankind; private rights in waters were recognized, but some rivers were deemed to be the property of the King. Law 18, Title 32, Third Partida, prescribed that one could erect a mill and use the same water as was used by a previously existing mill; that this could be done either (*a*) on one's own land, or (*b*) on the land of a river belonging to the King, under a grant from the King, or (*c*) on town lands, under grant from the town council (*concejo*):¹ always provided, in all cases, that the earlier mill was not deprived of its customary water. Law 19, Tit. 15, provided that the *ownership*, use and enjoyment of waters which rose and died

¹The famous commentator Gregorio Lopez queries whether this be permissible in the case of navigable rivers.

within the confines of one estate belonged to the owner of the land. This last principle has, I believe, been maintained in nearly all the Spanish-American countries.

The law of the Siete Partidas as to *servitudes* has had an important influence on the later jurisprudence. They closely followed in this respect, the Institutes of Justinian. It is sufficient for our present purpose to call attention to the fact that the servitude of *aqueduct* was recognized; that is, the right to conduct water through the servient tenement for the benefit of the dominant tenement for use in mills or for irrigation (Partida 3, Title 31, Law 4). The right could be extended also to cover the original *taking* of water from the servient tenement, in which case the owner of the latter could not grant a similar right to a third party, without the consent of the owner of the dominant tenement, unless the water was abundant enough to suffice for all (*id.*, Law 5): On the other hand, the beneficiary of the servitude, once the water had come on his land, could grant it to neighbors for irrigation (*id.*, Law 12). These servitudes could be gained by prescription (*id.*, Law 15). Other laws of the Partidas prescribe the rights and duties arising by reason of a servitude of aqueduct, and arising out of the use as between upper and lower owners of flowing waters (*id.*, Title 32; Law 15). This servitude of aqueduct appears to have been a voluntary servitude only, that is, created by voluntary act of the parties; but it seems to be the lawful parent of the modern servitude, by operation of the law, in case of necessity, which is such an important and beneficial feature of the modern Spanish-American law.

The laws early prohibited throwing substances into rivers injurious to fish; regulated the methods and prescribed seasons for river fishing, prohibiting, *inter alia*, the diversion of the stream (Year 1435; Laws 9 and 10, Title 8, Book 7, Recopilacion: Laws 8 and 9, Title 30, Book 7, Novisima Recopilacion).

By a law of King Enrique III (Law 2, Title 10, Book 7 of the Recopilacion; Law 7, Title 26, Book 7 of the Novisima Recopilacion) any council or private individual was prohibited from closing canals and rivers to fishing and navigation, or interfering therewith for other uses, even for town uses, except under a special privilege from the King.

This is important to show that the King claimed, and exercised, a paramount right to grant special franchises in connection with navigable rivers and to the detriment of the public or common right of navigation.

At the epoch just prior to the Independence of the Colonies, the public rights were again coming to the front. In a Royal Order of 1795 (Law 16, Title 30, Book 7, Novísima Recopilación), it was recognized as the existing law, that the right to fish in rivers was as free and general as the right of navigation, and consequently that there could be no exclusive private rights to fish therein, *except* by *special Royal privilege*, or an immemorial user which presumed a royal privilege. The existence of these private rights, whatever their origin, was recognized, but it was declared that they could not be used to the disturbance of navigation or of the public right to fish in other places; and hence, weirs crossing rivers were prohibited.

The mining industry was also one of the chief influences in Spain to shape the law of waters, and especially to counteract any undue tendency to the sanctification of private riparian rights. Important *mining ordinances* were promulgated in 1584 by Philip II (incorporated as Law 4, Title 18, Book IX, Novísima Recopilación). They permitted water to be freely taken for necessary mining purposes, from rivers and *arroyos* as well as other sources, at such places as was most advantageous to the miners (Paragraph 47). If the mining operations could not otherwise be carried on without damage to towns or ranches, the water had to be drawn into reservoirs and not permitted to flow back into the river, and the expense of additional structures, of course, had to be borne by the miners. They could obtain by condemnation the necessary sites.²

Colonial Law:—The Colonial Private Law in general followed the Spanish Law, but it must be remembered that the Indies were looked upon largely as the appanage and private property of the Crown. It is stated³ that the King of Spain always reserved the dominion of rivers in America (Solorzano, *Politica Indiana*, chapter 11, book 6). On the other hand, the laws of the Indies (Recopilación de Indias, Law 5, Title 17, Book 4) declared that forests, natural pastures and *waters* not granted to private parties are things *common* to *all*. But it was customary for the King to include the rivers in large grants made for him, and private ownership of rivers and other waters was recognized in many royal decrees (*e. g.*, Mining Ordinances of New Spain, Title 19, Art. 9).

²A translation of the more modern Spanish law as given by Escriche is to be found in *Wiel on Water Rights* (3 Ed.), pages 961-962-963-964.

³Velez Sarsfield's notes to Art. 2340 Argentine Civil Code.

The industrial needs of the sparsely populated colonies did not render imperative any clear demarcation of water rights. The confusion that existed in the Colonial law on the subject has to a large extent survived, in spite of, or perhaps in several instances because of, the modern Codes. As these were based on the French Codes, new elements of confusion were introduced; and it is only in very recent years that the *law* has made any marked progress towards the solution of the puzzling questions left open by the Codes, in contradistinction to the large arbitrary powers of granting special concessions exercised by dictatorial governments.

These different European sources of our American law of waters should be kept in mind in making any statement of the law of Pan-American countries, and particularly in making any comparison between the laws of these various countries. In the United States there is the greatest actual development, and also the greatest waste, of water resources. There is also in that country the greatest amount of law and legislation with reference to water rights, and at the same time the greatest lack of consistency or sanity in such legislation.

At the outset, then, we shall discuss the situation in the United States.

UNITED STATES LAW.

Approximately stated,* the potential water-power resources in the United States are 150,000,000 kilowatts. Of this quantity, 20,000,000 kilowatts of water power are so situated as to be reasonably feasible of development, that is, in case only reasonable legislative conditions were imposed upon the investor. Of this latter number of kilowatts only about one-fifth are actually developed and used, and the other four-fifths are running to waste. 75% of this wasting water-power energy is located upon navigable streams, and is, therefore, either directly or indirectly subject to Federal legislation. The remaining 25%, or about 4,000,000 kilowatts, is located upon the smaller streams in the several States and is subject directly to State regulation. This immense waste is, therefore, due, primarily, to deficiencies in Federal legislation and, to a great extent also, to defects in State legislation.

In the United States the Federal government is one of express, limited powers. It has only the powers of legislation which are expressly imposed by the Federal Constitution, all other powers

* Report, U. S. Commissioner of Corporations, March 14, 1912; also Senate Document 274, 62nd Congress, 2nd Session, pp. 11-14, 211, 273; also "Water Power Resources of the U. S." by M. O. Leighton—this Congress.

of legislation and of control being expressly reserved to the several States. The only power thus given to the Federal government, which even indirectly touches the subject of water rights, including water powers, is that which gives to the Congress the power to "regulate commerce" between the States. It is held that the power to regulate commerce includes the power to regulate the highways of commerce for the protection of navigation; and that, therefore, the Federal control of interstate commerce extends to the regulation and control, for the protection of navigation, of all the navigable streams of the country. It is also held that it is within that power of control to prohibit the construction of dams or other structures across or upon the beds of such navigable streams, except by the consent of Congress and under a permit containing such restrictions, established by the Secretary of War and the Chief of his Engineers, so far as shall be deemed necessary to make the structures reasonably consistent with, or not unreasonably obstructive of, navigation. Regulation statutes have been enacted by the Congress, ostensibly for such purpose of navigation, but so framed that in fact they are unreasonably and unnecessarily preventive of water power development.⁴

FEDERAL LEGISLATION

The present retardation through Federal legislation and its possible remedies involve three classes of Federal control of water powers.

Water Powers on the Public Domain: The "public domain" comprises those various tracts of land, mostly situated in the far western states, owned by the Federal Government under a title which is proprietary in its nature, as distinguished from a purely sovereign right of control or regulation for a particular public interest. Such lands include those which are known as the forest reserves. Connected with this same class are water powers which are neither on, nor a part of, the public domain, but the utilization of which, either for flowage, transmission-lines, or other purposes, requires some use, small or large, of lands which are a part of the public domain.

⁴Act of March 3, 1899, Sec. 9, 30 U. S. Stat. L. 1121; Act of June 21, 1906, 34 U. S. Stat. L. 386; act of June 23, 1910, 36 U. S. Stat. L. 593, (The Dam Acts).

Act of February 26, 1897, 29 U. S. Stat. L., 599; act of June 4, 1897, 30 U. S. Stat. L. 34-36; act of February 15, 1901, 31 U. S. Stat. L. 790; act of February 1, 1905, 33 U. S. Stat. L. 628; act of June 25, 1910, 36 U. S. Stat. L. 847, (Public Domain Acts).

In order to develop water powers which are a part of the public domain, the investor must first obtain a permit from that Department of the Government having jurisdiction of the land in question,—generally either the Department of Agriculture or that of the Interior. The permit must cover the right to construct and maintain and operate the dam, power-plant, and transmission-lines. But such permit is revocable at the will of the Department by which it is granted, and is subject to such conditions as that Department may impose, not only when the permit is granted, but subsequently thereto. Indeed, the permit, under certain circumstances, may be automatically revoked, as by entry by a third person under the homestead or mining laws.³ This unlimited power to make conditions in the permit and to change the same, allows the head of the Department to exact pecuniary burdens and tributes, the amount of which, from time to time, depends upon the discretion of such official. He has not power to grant a permit for any term which would, for any length of time, give stability to investment, nor the power to make the terms and conditions thereof free from unlimited uncertainties. Private capital has halted before such unbusiness-like conditions. As against over 5,000,000 kilowatts of water power subject to public-domain law which are now capable of commercial development, less than one-tenth of that amount has been developed.

But these prohibitive rules do not alone apply to the water powers which are themselves a part of the public domain. There are many millions of kilowatts of developable water power so located that their development or operation requires some use of some portion of the public domain, either for power-plants, or transmission-lines. Under the present laws such incidental use, however small, of any part of the public domain is subject to permits from government officials, always revocable at will and subject to conditions, and changes in conditions, at the discretion of the official granting the permit. This extends the features of uncertain tenure and of indefinite and changeable conditions to such an extent that the development of this class of water powers has been for years, and still is, at a standstill.

Water Powers on Navigable Streams: Next, are the water powers upon navigable streams outside the public domain. The power of control by the Federal Government over these arises

³Acts of Feb. 26, 1897, June 4, 1897, Feb. 15, 1901, and Feb. 1, 1905.

solely from its limited constitutional power to regulate commerce. This is in no sense a proprietary right or interest. It is merely a limited sovereign right of control for the particular purpose specified. Subject only to that limited paramount right, all rights of regulation and proprietary rights to the use and benefit of water powers belong to the States and their citizens, the rule of property rights being fixed by the law of the respective States.

The Act of March 3, 1899, already cited, provides, consistently with the constitutional power of the Congress to regulate commerce, that no obstruction, including water-power dams, shall be constructed in the bed of a navigable stream without the consent of the Congress. This prohibition and the reserved power of consent are logically retained for the sole purpose of protecting the present and future uses of streams for navigation. The consent provided had, until 1906, in accordance with the statute of 1899 and previous similar statutes, been granted in each case by a special act of the Congress. Each such statutory consent contained such provisions as might be agreed upon between the Congress and the private investor who was the grantee under the consent. These different special acts vary in the nature of their conditions; but under most of them construction has been made and vested rights thereby acquired. Nevertheless, the legislative tendency to disregard private property rights and investments made in good faith, is shown by the claim now asserted by many, that the general power of repeal or amendment reserved in those special acts makes such investments lawfully subject to any further burdens or conditions which the Congress shall at any time arbitrarily impose.

This claim originated, not only in the increasing tendency of legislators to disregard the equitable as well as the legal right of investments already made, but also in the growing prevalence of that class of agitators, who falsely pretend to represent the cause of conservation. Disregarding the constitutional limitations of water-power legislation, they argue that, as water powers upon navigable streams can be lawfully developed only after consent by the Congress, therefore the Congress may attach to such consent any conditions which it chooses to establish—that it may lawfully impose any burdens upon the investor or reserve any right of tribute or other advantage to the Government—all as conditions to its consent. What the constitution does not permit

directly, indeed that which it prohibits, they would accomplish by indirection. They urge legislation by which the advantages of water-power use and the revenues therefrom shall be turned, either from the States in which they were located or from the individuals having property rights therein, to the general government as representing the people at large.

The advocacy of this theory of conservation, and the contest over its application in legislative form, have been, more than anything else, the cause of the lack, in the United States, of proper legislation for water-power development. It was intended by the Acts of June 21, 1906, and of June 23, 1910, to establish the statutory conditions for any consent by the Congress so that afterwards the terms of those Acts should become part of any consent granted. It was the fallacious theory of conservation already suggested that made those acts prohibitive, instead of promotive, of private investments. It is also the same pseudo-conservationists who are urging still further legislative restrictions and burdens upon investments, and who are now harassing the legislators and the present administration at Washington in their earnest attempts to enact legislation which shall remove the present legislative obstacles to private investments.

By these Acts, of 1906 and 1910, the term of the consent cannot exceed fifty years; and at the end of that time the investor has no rights. More than that, even before the expiration of the fifty years the consent may at any time be arbitrarily revoked without a return to the investor of more than a part of his necessary investment. The investor, therefore, must, in addition to what would otherwise be fair service-charges, make his charges for service to his consumers sufficient, within that period, to pay back to him the entire cost of his investment. No consideration is taken of the fact that the investor might have to wait five or ten years, or more, to build up a market which would consume the products of the full capacity of his plant. By the increased service-charges imposed he cannot in many localities meet the competition with steam power, which, in many places, at the present cost of steam power, is very close. Indeed, in some places the advantage is in favor of steam power. In addition to this, the same Acts reserve to the War Department of the Government the power to impose conditions as a part of the permit to be issued by that Department under the consent given by the Congress, and also to change such conditions, according to discretion. There is no fixed

limit to such possible conditions and burdens, thus making the basis of the permit and the conditions to be fulfilled vague and uncertain.

These Acts and the policy therein announced have been so prohibitive of investment that investors, almost without exception, have refused to apply for or to accept any permits under them. Their prohibitive effect upon investment, and therefore upon the development of water powers, has been demonstrated by experience. Reports of the Congress, by those who have investigated the question officially and otherwise, are recognized, by all who really seek a business-like solution of the problem, as proving the insufficiencies of the existing law.⁶

The present Congress is now struggling with this question. Those who appreciate the situation are seeking to remove the present legislative obstacles sufficiently to offer business-like terms and conditions for private investment. They would make the conditions of the Government permit sufficiently broad to admit of the preservation of all present and future navigation interests. They would, however, make all conditions and all burdens upon the investor as specific and definite as possible, in order that the investor may know in advance the extent of his necessary ultimate investment. They would make the term of the permit indeterminate, and revocable only for cause, or renewable at its termination upon reasonable terms, thereby assuring reasonable stability of investment and avoiding the necessity of excessive charges upon consumers. The question of rates to consumers, it is proposed, shall be left to the commissions of the respective States. The public interests are to be protected by ample provision for revocation proceedings in case of default by a grantee in the performance of the conditions imposed.

Whether such remedial legislation shall be enacted depends upon the extent to which the pseudo-conservationists, above referred to, shall be able to exert their influence against the measures now under consideration. These obstructionists are conducting an organized campaign for the purpose of creating prejudice in the minds of the general public and in the minds of the members of the Congress against these constructive and remedial measures. In the meantime the leading members of

⁶Report, National Waterways Commission, Senate document 469, 62d Congress, 2d Session, page 54. For a most illuminating discussion of these questions, see "Water Conservation by Storage," Chaps. I-V, by Professor George F. Swain, Yale University Press, 1915.

the Congress, most of whom have informed themselves on the question, are working, irrespective of party politics, to join with the present administration in an attempt to have enacted the only legislation which will remove the present legislative obstacles to water-power development.

Water Powers at Government Navigation-Dams—There is a third class of water powers, not included in the two foregoing, which are also under Federal control, which control, however, rests upon a basis different from that of the other two. The Federal Government sometimes, at its own expense, builds and operates navigation-dams for the general use of the public. At such dams the water which is not necessarily used for navigation affords, under the head and fall of the navigation-dam, a developed water power. Such water power is incidental. The Government, however, having acquired the riparian rights for its navigation improvements, thereby becomes proprietor of such incidental water power. The scope of its proprietary interest depends upon the extent to which it has acquired the riparian rights; for to such rights, as we have seen, the proprietary interest attaches. It also depends, of course, upon the extent to which the law of the State in which the dam is located vests in the riparian owner the property right to the use of water power incident to his land.

When the Government has acquired all the riparian rights to which the water powers are incident, and has at its own expense constructed a navigation-dam, then the water power incidentally developed thereby is rightfully considered to belong to the Government and may be granted, leased, or sold by the Government as by any other proprietor.

But in many instances the physical conditions are such that the development of water power alone would be so expensive that it would not yield fair returns upon the investment. At the same time improvement for navigation at Government expense might be too costly, either as a navigation or a water power improvement, or both. In such instances the public interests would best be served by a coöperation between the Government, in the interests of navigation, and the private investor, for the purpose of water-power utilization. This class of cases is met by the policy of a coöperative agreement by which the private investor furnishes such part of the necessary investment as he can eco-

nomically furnish, and the balance is furnished by the Government. Thereby both navigation improvement and the development of water powers are procured. The terms of such agreements vary according to the different conditions in each case. This statement applies to those dams which, from the Government viewpoint, are primarily navigation-dams, as to the construction and operation of which special agreements are necessary.

Where a water-power dam in a navigable stream is constructed by private capital under Government consent, the policy of the past, as well as of the proposed legislation, contemplates that, to the extent which is consistent with a fair capital investment and a fair return thereon, the private investor shall construct, maintain and operate, free of expense to the Government, navigation facilities as a part of and in connection with his water-power development. This burden is deemed to be imposed as within the power of control in the interests of navigation.

STATE LEGISLATION

Subject to the paramount control of the Federal Government to protect navigation, as already defined, the control of water powers upon all streams, navigable or unnavigable, belongs to the States within which the water powers are located. This applies to all the original States and to States since admitted to the Union, and as between the State and individuals the proprietary interest and its character and extent are determined by the law of property rights as established in the respective States.⁷ In accordance with these principles, so definitely fixed, the Congress has expressly recognized by Federal statutes the controlling efficacy of local property laws and customs with regard to water rights existing in those States where the common law has been either repudiated or modified, and has in statutory terms confirmed the rule established by the decisions just cited from the Federal Supreme Court.⁸

Accordingly, in order to determine the law of property rights of the individual as against the State, or of either or both as against the Federal Government, and therefore to determine the rule by which the Federal Government itself and its courts are

⁷St. Anthony Falls Water Power Co. v. Water Commissioners 168 U. S. 358, and cases cited in opinion.

⁸Act of July 26, 1866, 14 U. S. Stat. L. 253, and other Federal statutes above cited; also act of Mar. 3, 1891, repeal of timber culture laws; and act of June 4, 1897, the Forest Service.

bound, we have to resort to the law as established by the respective States. So it is that in Arizona, Colorado, Idaho, New Mexico, Nevada, Utah, and Wyoming the so-called "Colorado doctrine" governs, whereby the common law of riparian ownership and control of water powers is repudiated and the law of control by the State prevails, State statutes allowing and regulating appropriation of waters for power and other private uses with preference in the order of actual appropriation.⁹ In others of the far western States there prevails the "California doctrine," by which the common law of riparian rights governs, modified only by appropriation rights vested before the riparian lands passed to private ownership. This is the rule in California, Kansas, Montana, North Dakota, Oklahoma, South Dakota, and other States.¹⁰

In the States lying east of or bordering upon the Mississippi River the common-law rule of riparian rights generally prevails. In these States, to the extent that the common law of riparian rights has been retained, the right to the beneficial use of the water power appurtenant to riparian land is a part and parcel of the land and belongs to the riparian owner. The State has no right of ownership or control in a proprietary sense. Its rights are confined to that of a sovereign power of control for the public use of navigation. All proprietary interests belong to the riparian and extend to all beneficial uses of the water power, including the revenues therefrom.¹¹ The distinction as to navigable streams, that in some States the riparian title extends only to high-water mark with the limited sovereign title in the bed and waters, and that in other States the riparian title extends to the middle of the stream, subject to the sovereign control for navigation, is, for practical purposes, merely speculative.¹² The rule is the same whether the stream be intrastate, interstate, or an international boundary.¹³

⁹*Land & Canal Co. v. Ditch Co.*, 18 Colo. 1; *Kansas v. Colorado*, 206 U. S. 46; *Boquillas Co. v. Curtis*, 213 U. S. 339; *United States v. Rio Grande Co.*, 174 U. S. 706.

¹⁰*Lux v. Haggin*, 69 Cal. 355; *Bigelow v. Draper*, 6 N. Dak. 152; *Sturr v. Beck*, 6 Dak. 71, 133 U. S. 541.

¹¹*St. Anthony Falls Water Power Co. v. Water Commissioners*, 168 U. S. 358, citing the property law of Minnesota, which is substantially that of all riparian right States.

¹²*Union Depot Co. v. Brunswick*, 31 Minn. 297; *Lamprey v. State*, 52 Minn. 181; *Hobart v. Hall*, 174 Fed. 433, *aff'd* 186 Fed. 426.

¹³*United States v. Chandler-Dunbar Co.*, 209 U. S. 447; *Niagara County v. College Heights Co.*, 111 N. Y. App. Div. 770; *People v. Smith*, 70 N. Y. App. Div. 543, *aff'd* 175 N. Y. 469.

These rights, reserved to and established in the States, and these property rights of beneficial use, fixed by the law of the States in the riparian, are subject only to the paramount control of the Federal Government for the definite and specific purpose of protecting navigation. The authority of the Congress is limited to the prevention of any unreasonable interference with navigation.¹⁴ Although the interests of navigation are paramount, the sovereign right of the Government, national or State, to control or protect for this or other public use, while a conflicting interest, is not inconsistent with the exercise of the private right. Each must have regard for the other, but the private right persists up to the point where its exercise becomes an unreasonable interference with the public right. Both rights are limited, but the exercise of the limited public right can not be used as a means of extinguishing or appropriating the private right.¹⁵

Each State, subject to the exercise of the Federal power of control, which has been defined, has all the rights of control over all the streams, or parts of streams, both navigable and unnavigable, which are located within the State, and over the water powers therein. This does not mean that each State may by legislation make water powers within its borders the source of direct advantage or revenue to the State itself. Each State and its legislature are bound by the law of property rights with respect to water powers which has become established in that State and under which vested property rights have been acquired. This makes the jurisdiction of the States over water powers somewhat varying. Generally speaking, in any State where the law of public ownership and control of water powers has been established as a property law of the State, a statute based upon such public ownership and control and having regard for the particular property rights there established, would be a constitutional and enforceable statute. In such States individual water rights are secured under laws regulating appropriation permits and in various ways controlling and limiting the right of private use. Such States are those among the States west of the Mississippi in which the property law of riparian ownership either

¹⁴Union Bridge Co. v. United States, 204 U. S. 399.

¹⁵State ex rel. Wausau Street R. Co. v. Bancroft, 148 Wis., 124; Crookston Co. v. Sprague, 91 Minn. 461. On this and other points see "Limitations of Federal Control of Water Powers," by Rome G. Brown, S. Doc. No. 721, 62d Cong. 2d sess.

has never been established or has been established only in a modified form.

But the rule is different in those States which, as I have said, lie generally along, or east of, the Mississippi River, and in which the law of riparian rights, both upon navigable and unnavigable streams, has been established as a property right. In such States a statute would be unconstitutional if based upon the theory that water powers are a resource belonging to the entire State, or that the advantages and revenues from developed water powers belong primarily to the entire State. It would be declared by the courts invalid, as confiscatory of vested private riparian property rights. It should be kept in mind that the vested property rights referred to are not confined merely to the right of advantage in water powers actually developed. The right of development, that is, the right of the use, of water rights which are appurtenant to riparian land, whether the water powers are developed or not, is itself an incident to the real estate. As the books say, it is a right belonging to the riparian land *jura naturæ*. Under our law the only difference, as between navigable streams and unnavigable streams, is, that this property right is subject, in the case of navigable streams, to the exercise of the paramount Federal control for the specified purpose of protecting navigation interests.

In the formulation of State water-power legislation these distinctions are often overlooked. Some States have formed commissions to control water powers under statutes which view the public right of ownership and control too broadly, and which in effect restrict the vested rights of riparian owners to the point of confiscation. The extent to which such statutes may be enforced must yet be determined by the courts.

In some States the courts have already declared against such attempts at confiscation. The legislature of Wisconsin passed a statute two years ago which was based upon the theory of State ownership and control of water powers, and which, in substance, attempted to repudiate the law of riparian ownership. The supreme court of Wisconsin promptly declared that statute invalid on the ground that it infringed the established private property rights belonging to riparian land.¹⁸

It may be said, however, that the several States are anxious to have their respective water-power resources developed and

¹⁸State *ex rel.* Wausau Street Railway *vs.* Bancroft, 148 Wis. 124.

used; and that, if water-power legislation were confined to that of the States, there would have been no lack of progress such as now exists in the United States in regard to water-power development. The present demand is for large power sites instead of for small ones such as are found upon the small, unnavigable streams. The demand is for the opening up of the water powers upon the large "navigable rivers" of the country. This does not mean alone those rivers which are at present actually navigable. The term is held to include all rivers, and those parts of rivers, which are reasonably capable of artificial improvement for commercial navigation. Therefore, it includes those streams upon which substantially all of the large water powers of the country are located. State legislation can never open up these water powers to use until Federal legislation shall be so adjusted that private capital may feel reasonably safe in making investments in such water-power developments.

Water-power capital in the United States is now waiting for the removal of the Federal legislative obstacles which are prohibitive of investment. Until they are removed the great water powers of the United States will continue to waste. Meanwhile the industrial development which would thereby be built up in our country is being driven to foreign countries, where a less suicidal legislative policy is retained.

It would not be consistent with the limited scope of this paper to summarize the laws of each and every Pan-American country upon the subject of water rights. There next follows a summary of the law of those countries which may be taken as fairly typical.¹⁷

WATER POWER IN SOUTH AMERICA

Before taking up the law regulating water rights and water-power development in different Spanish-American countries it is interesting to note, as stated by Mr. Lewis R. Freeman,¹⁸ a leading American hydraulic engineer and authority on water-power devel-

¹⁷The writer desires here to express his obligations to Phanor J. Eder, Esq., 60 Wall Street, New York City, who is an expert in the law of Spanish-American countries. Mr. Eder has kindly rendered great assistance in preparing the statement of Spanish law above given, and of the laws of various countries shown in the Appendix, and here summarized.

¹⁸What is said here about the physical conditions with reference to water-power development in the South American countries is taken largely from the statements of Mr. Freeman in his discussion of "Hydro-Electric Operations in South America", published in Vol. XXXVII, No. 5, of November, 1913, of the Bulletin of the Pan-American Union.

opment, that "South America, while affording magnificent water-power possibilities, is more sparingly supplied with oil and coal than any other of the great continental land bodies of the world, with the possible exception of Africa." This Southern American continent is, taken as a whole, designated as "an especially favorable field for hydro-electrical endeavor." The general scarcity of fuel makes power of all descriptions very expensive. This part of the world is favored with the natural fuel resources of coal and oil to only a comparatively insignificant degree. The most important coal mines on that continent, situated in southern Chile, afford only sufficient fuel to supply the demands of coasting steamers and railways. Almost all of the coal used in South America is imported from abroad. The production of liquid fuel in the form of natural oil is practically limited to northern Peru and one district in southeastern Argentina. On the other hand, the three prime essentials in the generation of energy from water power—fall, volume, and continuity of supply—are found in almost every part of South America; the Pampas country and the rainless district of northern Chile being among the few exceptions. The finest opportunities for water-power development in the world, so far as physical conditions are concerned, are on the slopes of the Cordilleras of the Andes in Peru, Bolivia, and Ecuador, where the waterfalls, cascades and torrential rapids of the river exist, abundantly supplied by the moisture-laden clouds from the Amazon Valley dissolving in rain upon the cold slopes of the lofty Andes, pour their burden of energy down to the sea.

Chile is stated, by Mr. Freeman, to be the most favorably located country in the world for an easy and comparatively inexpensive hydro-electric development, the only possible exception being Switzerland and Kashmir. The densely populated country between the Cordilleras and the coast presents water-power possibilities, for practical commercial development, equal to those of the Alpine country. But water-power development has been slow; although some installations of considerable magnitude have been put in operation. The undeveloped commercial opportunities for the profitable generation and distribution of electrical energy from water power are, economically viewed, in mocking contrast with the losses and sufferings which are continuously endured in Chile from lack of coal and oil fuel.

The Laja River, in Chile, is the Niagara of South America, having a flow of little less than that of the Hudson at Albany,

and with falls more than 100 feet high; and the river is ideal for economic hydro-electric installation. In southern Chile there is more undeveloped water power than could be used for several decades. The great Choshuenco river has a fall of 150 feet at one point and presents the practical opportunity for a water power with 1,200 feet fall developing more than 200,000 kilowatts.

Peru has more natural resources for fuel, from coal and oil, than other South American countries; but, for lack of transportation facilities, the price of such fuel is generally prohibitive. The practical opportunities for water-power development in that country are nearly as favorable as are those in Chile; and, although there are already in Peru hydro-electric installations developing 75,000 kilowatts, further developments, yet unattempted, are feasible to meet the present unsupplied demand.

Comparatively little has thus far been accomplished in hydro-electric development in Bolivia, Ecuador, Colombia, Venezuela, and Paraguay; but in these countries the retardation of development is due largely to the unfavorable situation of water powers with reference to populous communities creating the demand. In the Argentino-Uruguayan country, feasible water-power developments are afforded by the great Mendoza river and its tributaries, flowing down the eastern slope and foot-hills of the Andes to the Atlantic. This river has a fall of 9,000 feet in a distance of 100 miles and presents water-power possibilities, within a comparatively short distance upon a single stream, which are equaled nowhere in North America, except perhaps in Alaska. The population and industries of the surrounding country make, within easy transmitting distance, a demand, yet unsupplied, of over 200,000 kilowatts of power, which is far less than the capacity of the Mendoza.

The greatest center of population in South America, including the great cities of Buenos Aires, Montevideo, La Plata, and others representing nearly 3,000,000 inhabitants, present an unlimited market for power from the streams flowing easterly from the Andes. However, intervening hundreds of miles of Pampas between the Atlantic coast and the foot-hills of the Andes present limitations of transmission which are at present practically impossible to overcome.

In British Guiana, on the Potaro river, a branch of the Essequibo, is the highest fall of great volume in the world. Here the river 300 feet wide, drops 700 feet. The immense energy from this great cataract is wasting until further increase in popula-

tion and in industrial development shall create such a demand for the power that the expense of the long transmission lines required to bring the wasting energy to the market shall become an economic possibility.

But physical obstacles and the lack of appreciation of the opportunities open to commercial development are not the cause in these southern countries of the waste of water-power energy, the utilization of which is already commercially feasible. As in the United States, the first requisite for the promotion of water power development, and therefore for the prevention of waste of this natural resource, is encouragement, by legislation, to the investor who must furnish the capital for hydro-electric development. The hazards incident to such investment, even under the most favorable laws and regulations, are very great. But the physical hazards may be overcome or diminished. Before such dangers capital does not show timidity. What capital demands in such investments is certainty of tenure, and security from confiscation, sufficient to warrant dependance upon reasonable returns. Such security can only be afforded by laws, which at the same time that they protect the interests of the public also protect the investments which shall be made in furtherance of the public interest in the utilization of water-power resources.

In none of the countries of Spanish-America are the laws formulated in such a way as to attract private investment. The fact that there are already such investments only indicates the certainty of much greater development in the immediate future in case unreasonable legislative hazards to investment are decreased or eliminated.

WATER RIGHTS IN SPANISH-AMERICAN COUNTRIES

In this part of the paper there will be presented only a running summary of the status of the law. For a more detailed summary, reference is made to the Appendix hereto, which has been kindly prepared for me by Phanor J. Eder, Esq., of the New York Bar.

ARGENTINA

The Federal power in Argentina is, as in the United States, limited to the power to regulate commerce, and that is, with respect to streams, to regulate and protect navigation; but rivers are held to be the public property of the State. Riparian owners

have not the preference due to the location of their riparian land which is recognized in the United States. The uses of water by private parties are regulated by administrative authority under rules which may be modified or repealed. The enjoyment, therefore, of the use of waters is uncertain and the rights of investors, even under authoritative permits, are precarious. Here is presented a defect in the laws and regulation of waters quite similar to those defects which have been experienced in the United States with reference not only to water powers outside the public domain, but especially as to those within the public domain. National control of water powers seems in the first instance to have sprung from the right of national control over commerce, and, as in the United States, by construing that power to include control over navigation. But in the exercise of that power of control, as also in the United States, it seems to have been extended to the assertion of a power, not merely of a control for a specified purpose and to the limit required for the exercise of the limited power, but of an ownership by the State in the beds and waters themselves of streams, both navigable and unnavigable. The reservation of the right to change the conditions of investment, which are made by one who receives a concession from the government, tends to maintain legislative conditions which are in their very nature prohibitive of investment.

CHILE

In Chile, all rivers are "national property of public use." The use of public waters for power and other purposes is acquired by administrative concession. Each concessionaire is subject to the local or general ordinances of the local government, with no special right reserved to the owners of riparian land. This was the law until 1907, when a special statute was promulgated covering the subject of the "utilization of running waters for power." Under this statute the riparian owner may make a reasonable use, that is, a use consistent with the reasonable enjoyment by others of similar rights, of the waters which flow through or over his land. This right of use, however, even under the terms of this law, is not protected by constitutional law against a subsequent law which may have the effect of destroying the owner's investment. The right to develop water power must, nevertheless, in all instances, be subject to the terms of a con-

cession limiting the quantity and manner of use, and subjecting the concessionaire to all regulations which are in force at the time of the concession, or which may thereafter be enacted.

Here again any prospective investor in water-power development is confronted with uncertainty as to his tenure and as to the burdens to which his investment is or shall be subjected.

COLOMBIA

In Colombia, as in Chile, the ownership of the waters of streams is generally held to be in the State for public use. Rights to uses of water for power and other private purposes are, upon application, obtained from the government, and the use of such water-power privileges are subject to changes in the statutory law applicable thereto. The rights of riparian owners, known to the English and American common law, are in the first instance recognized, but often their use is subjected to restrictive laws and regulations, present or prospective, which unduly increase the burdens of investment.

CUBA AND PORTO RICO

In these countries the rivers and their natural beds are made part of the public domain, and the use of the waters thereof must be obtained by private persons by administrative concession, unless a prescriptive right for 20 years has been acquired. Riparian owners are held to have no rights except such as have been duly acquired under concessions legally made, or by prescriptive use. In making concessions preferences are observed, first, for the water supply of towns; second, for the water supply of railways; third, for irrigation; fourth, for navigable canals; fifth, for mills, factories, etc.; sixth, for fish ponds or hatcheries. In the exercise of the power of eminent domain indemnity is provided only for a use which has such statutory precedence. The laws of Cuba and of Porto Rico, with reference to water rights, seem upon their face to be more protective of investment than those of any of the countries here discussed. The laws of water rights have been codified, and present a fairly reasonable certainty as to the terms upon which the investor may obtain a concession and operate under it.

URUGUAY

In Uruguay, the general rule is established, that waters of navigable streams are national property of public use, and the

use of the waters of such streams for water power requires special authorization from the government. In the case of nonnavigable streams the riparian owner has the rights which are usually recognized under the English and American law. The reservation of the right of the government to issue permits and to fix the terms of such permits is not sufficient to give that security of investment necessary to encourage water-power development; for the terms thereof are subject to change, and insufficient protection is afforded against changes in the conditions of the authorization.¹⁹

VENEZUELA

In Venezuela, while rivers are made part of the public domain, nevertheless the right of riparian owners to utilize their beds and waters for industrial purposes is expressly provided. The public rights of navigation are made paramount, as in the United States. By the new constitution of 1914, however, there is reserved to the Federal Government control over the waters of navigable streams; and water-power developments thereon can only be made under the consent and approval of the National Congress. Such a situation would leave water-power investments subject to the changing legislation of the National Congress or of the authorities to whom the power of that Congress might be delegated.

BRAZIL

The water-power law of Brazil is Portuguese rather than Spanish. The general law of water rights follows that of Argentina. The government is expressly authorized to foster the utilization of hydro-electric power for transformation into electrical energy, when applied to "federal" services. Any excess power from such installations may be granted to private investors for use in private industries. This corresponds to the practice in the United States of a construction by the government of navigation dams, and at such height and structure as to afford water power in excess of that required for navigation purposes; and the leasing of such excess to private enterprises. In Brazil, however, it would seem that "federal" service is not limited to the federal promotion of navigation, but may be extended to the federal control and use of water powers as such, rather than as incidental to navigation improvements.

¹⁹Moreover, the business of supplying electricity to the public for light and power is practically a Government monopoly, under a statute of 1912.

MEXICO

The laws concerning waters and water rights in Mexico are summarized quite fully in the Appendix. Navigable and boundary streams are viewed as highways, and therefore among those general "ways of communication" which are under the control and regulation of the Federal Executive. Concessions for the utilization of waters under such federal jurisdiction, for irrigation or for power, are granted by the Federal Executive under conditions as to structures and use of water, including rates—all largely in the discretion of the Executive. Special privileges for five years in order to encourage investment may be granted, and such concessions may be renewed in the discretion of the Executive and upon conditions imposed at his discretion within certain limits. All uses of waters in such streams are subject to the paramount uses of navigation. Even under a stable government, and with all revolutions passed, the uncertainties to investment in water-power development presented by the peculiarities of the Mexican law, would, at the very outset, be prohibitive. The terms of concession, by which the rights of development by private capital are obtained, are left too largely to the caprice of the authorities in whose hands the granting lies. Moreover, this practice makes the granting of the concession, its original terms and chances of renewal, too much subject to arbitrary change and control. The lack of security vouchsafed to private investment in water-power development in Mexico has kept such investments, to a large extent, out of that country.

CONCLUSION

It is apparent that the conservation of water resources, through the utilization of the wasting water power of the Pan-American countries, including the United States, can only be accomplished by the adoption of a legislative policy which shall invite private investment in such enterprises. The universal fault with existing policies of legislation, in these matters, is, that the prospective investor, asking for a grant, or concession, or permit, is viewed as one asking, for his own private benefit, a gift from the public. The theory is too much prevalent that, because water resources are a natural resource they are, for that very reason, a purely public resource, and not by nature or in law for development in any other way than through the direct supervision of public authorities and for the exclusive and direct benefit of

the public at large. But water powers are local in their very nature. The assertion of a right of benefit, through direct participation by the general public in the proceeds derived from the utilization of water powers, is an assertion that natural water powers are intended only to produce for the public treasury. Such a view of water-power resources leads to the legislative policy of imposing by statute the utmost burdens possible, and even impossible burdens, upon private investment. Experience has demonstrated that utilization of wasting water powers cannot be accomplished by their development by the public authorities; but only through the capital of private investors. Such investors, however, rightly demand that security for their investment which shall afford to them reasonable protection against confiscation and loss of their investment, and against failure to receive fair returns thereon.

There are millions of dollars of capital in the hands of American financiers ready for investment in water-power developments, not only in the United States but in all of the Pan-American republics, but which are withheld from such investments because of the financial obstacles presented in these various countries through an almost universal absence of a legislative policy which will allow such investments to be made with reasonable safety.

ROME G. BROWN.

MINNEAPOLIS, MINN.

LEYES Y REGLAMENTOS ACERCA DEL USO DEL AGUA EN LOS PAISES PAN-AMERICANOS

MEMORIA PRESENTADA AL SEGUNDO CONGRESO CIENTÍFICO PAN-
AMERICANO CELEBRADO EN WASHINGTON, D. C., DEL 27 DE
DICIEMBRE DE 1915 AL 8 DE ENERO DE 1916.

POR ROME G. BROWN
Minneapolis, Minnesota.

OBJETO DE ESTA DISCUSION

El debido aprovechamiento de los recursos naturales de los países Pan-Americanos es de la mayor importancia para su propio desarrollo interno así como para el de sus relaciones industriales y políticas entre ellos. De todos los recursos naturales, ningunos que constituyan un tan valioso presente de la Naturaleza ni que sean tan esencialmente una fuente poderosa de crecimiento comercial é industrial, como los usos del agua, que en esos países se encuentra en abundancia por doquiera.

Los depósitos minerales, ya en forma de carbón, de hierro, de nitratos ó de otros minerales, son limitados en cantidad, relativamente ocultos en cuanto á su situación, y como por su propia razón natural no son susceptibles de renovación, son por consiguiente, agotables. Los recursos de maderas, si bien renovables por la Naturaleza, son, sinembargo, en un sentido de la palabra, limitados y agotables.

Los recursos del agua, por otra parte, son las fuentes de las bondades de la Naturaleza para el hombre, constantemente mostradas, siempre aprovechables y continuamente renovadas. Ya sea el pequeño arroyuelo discurriendo por una heredad en las tierras de la altiplanicie, escasamente supliendo de agua al propietario, su familia y su ganado, así como á los pocos acres de cultivo, cubriendo apenas la necesidad dentro de lo indispensable, ó ya sea la caudalosa corriente continental, llevando sobre sus aguas el comercio entre los puertos ribereños y el mar y alimentado en su curso por los numerosos desagües de las montañas que derrochan sus latentes

energías en cataratas no utilizadas,—las corrientes de agua dulce de estos países son, fuentes que siempre están presentes, siempre renovadas y, por consiguiente, inagotables, para el desarrollo de su supremacía industrial.

Desde el punto de vista nacional, los tres grandes usos de que son susceptibles tales corrientes, son la navegación, la irrigación y la fuerza hidráulica. Esta última, es decir el desarrollo de ella, es el primordial objeto de esta memoria.

La fuerza hidráulica, desarrollada ó sin desarrollar, denota energía. Es, por consiguiente, una parte de las muchas facetas de energía que comprende la vida y éxito posibles y ciertos del país dentro del cual se encuentra situada. Con cada caída de agua en una corriente natural, ya sea la tarda corriente en una grande y profunda acumulación de aguas ó ya sea la catarata que se precipita de entre las altas montañas, constantemente se ejercita la energía que se muestra por el producto del peso del agua que cae y el número de pies por segundo por los cuales esa cantidad pasa del nivel superior al nivel inferior. Esa energía, en otras palabras, es el número de libras de agua que caen en cada segundo, por cada pié de caída. Quemamos una tonelada de carbón con el objeto de desarrollar y de utilizar la energía latente encerrada en el carbón y encontramos que por ese medio obtenemos de una tonelada de carbón el equivalente del uso de cerca de un caballo de fuerza de energía por el período de un mes. Esto, á su vez, es equivalente al uso de cerca de un kilowatio de energía durante casi tres semanas. Esa energía se produce por la simple incineración del carbón. Si desarrollada así, se la utiliza, mueve turbinas para fábricas ó calentará casas y talleres, ó ayuda á convertir las tinieblas en luz. Si no se la utiliza, se desperdicia para siempre y se convierte en parte de esos inmensos desperdicios de la Naturaleza que jamás podrán recuperarse. La energía de la catarata, sin embargo, no es latente. Esa energía es una parte de la fuerza de gravedad constantemente activa. Está siempre presente y a menos que no se la aproveche, por siempre se desperdicia. Por consiguiente, la conservación de los recursos naturales de un país exige la mayor y más inmediata prevención de este constante desperdicio de energía debido á fuerzas de agua no utilizadas y la más pronta y extensa utilización que pueda hacerse de acuerdo con la debida protección de los intereses privados y del público en general.

La razón principal para que se retardara este aprovechamiento de las derrochadas energías de las fuerzas hidráulicas, era ántes

la falta de medios para la transmisión de esas energías para ser usadas en localidades distantes de la fuente de fuerza. Pero el progreso alcanzado recientemente en la ciencia eléctrica, ha hecho comercialmente factible el uso de inmensas facilidades de fuerzas hidráulicas que ántes se desperdiciaban. No obstante, no hay un solo país en toda la América en donde no estén sin satisfacer las demandas comerciales para el desarrollo de fuerza hidráulica, y en donde no se pierdan grandes cantidades de kilowatios de energía hidráulica.

La causa de este desperdicio antieconómico en todos los países, es, que la legislación para la reglamentación y uso de los recursos hidráulicos, en vez de promover su uso, ha venido siendo un obstáculo para él. La legislación no está á la altura del progreso en la ciencia del desarrollo y uso de la fuerza hidráulica.

En consecuencia, el principal objeto de esta memoria es el de pormenorizar, con respecto á los usos del agua y especialmente de las fuerzas hidráulicas, las leyes y reglamentos vigentes con carácter público en los países Pan-Americanos y en particular mostrar los casos en que tales leyes son obstáculo para el aprovechamiento de esos recursos, que sin ellas serían usados; así como indicar los posibles remedios para tales males.

ORÍGENES GENERALES DE LA LEY

En el mayoría de los países Pan-Americanos, con excepción de los Estados Unidos, los orígenes de la ley sobre derechos de aguas, así como otras facetas de sus demás leyes, son la Ley Española. Los principios fundamentales de la Ley Española, tal como se aplican en estos países, fueron después confirmados ó modificados por la introducción, en sus leyes Coloniales, de ciertos principios de la Ley Francesa. Modificaciones posteriores han sido causadas por el reconocimiento y adopción local y parcial de principios de derecho que son principalmente los de los Estados Unidos, en donde las leyes de aguas están fundadas generalmente en la Ley Inglesa. Pero en los Estados Unidos se han efectuado grandes modificaciones de la Ley Inglesa, á fin de ajustarla á las condiciones físicas peculiares de nuestro país y que no son características de la madre patria á la cual la Ley Inglesa se adapta.

Primera, pues, de estas fuentes originales:

Ley Española—Los cimientos del sistema legal Hispano Americano fueron heredados de España; y hasta la Independencia, la Ley Española rigió en Hispano-América, sujeta solamente á modificaciones que fueron introducidas por leyes especiales ó decretos pro-

mulgados para las Colonias. Continuó en vigor en los varios países hasta que fué modificada por nuevas disposiciones legislativas que tomaron principalmente la forma de Códigos extensamente modelados en los Códigos Napoleónicos. Una ó dos palabras acerca de la antigua Ley Española, pueden considerarse como una introducción apropiada.

Las *Siete Partidas*, el gran Código de la Edad Media cuyos principios aún trascienden la jurisprudencia Española ó Hispano-Americana, divide las "*cosas*" en cosas comunes, las pertenecientes á las personas, y aquellas consagradas al servicio de Dios (Partida 3; Título 28, Ley 2). Había una curiosa subdivisión de las cosas *comunes* en (a) "las cosas que comunalmente pertenescen á todas las criaturas que viven en este mundo: el aire, las aguas de la lluvia, el mar y su ribera (id. Ley 3); (b) las comunes á todos los hombres: los ríos, puertos y caminos públicos (id. Ley 6); y (c) las del común de cada una ciudad ó villa." Se comprendían las fuentes que jugaban un papel tan importante en la vida Española (id. Leyes 9 y 10). La Ley 6 ya citada es de especial interés—siguiendo el Derecho Romano, disponía que los ríos pertenecen á todos los hombres en común, "de tal manera que también pueden usar de ellos los que son de otra tierra extraña, como los que moran y viven en aquella tierra donde son". Y como quiera "que las riberas de los ríos sean cuanto al señorío, de aquellos cuyas son las heredades á que están ayuntadas; con todo eso, todo hombre puede usar de ellas ligando á los árboles que allí están, sus navíos, é adobando sus velas en ellos, e poniendo ahí sus mercaderías; y pueden los pescadores poner ahí sus pescados y venderlos e enjugar ahí sus redes e usar en las riberas de todas las otras cosas semejantes de estas que pertenecen al arte o al menester porque viven." Se disponía (Ley 8ª) "que molino ni otro edificio ninguno puede hombre hacer nuevamente en los ríos navegables ni en las riberas de ellos, porque se embargase el uso comunal de los hombres; pues no sería guisada cosa que el pró de todos los hombres comunalmente se destorbase por la pró de algunos"; pero, las obras antiguas no tenían que ser destruidas mientras no impidiesen el uso comunal.

Sin embargo, otros pasajes en las Partidas son interesantes pues muestran que, a pesar de la declaración arriba citada que los ríos y el agua de lluvias eran comunes a todas las criaturas vivientes o a la humanidad entera, se reconocían derechos privados sobre aguas, pero ciertos ríos eran considerados como propiedad del Rey. La Ley 18, Título 32, Tercera Partida, prescribía que uno podía erijir

un molino y usar la misma agua que usaba un molino erijido anteriormente; que esto "puede hacerlo (a) en su heredad, o (b) en suelo que sea de río del Rey, con otorgamiento de él, o (c) con otorgamiento del Común del Concejo cuyo es el lugar donde lo quisiere hacer¹; y siempre entendiéndose que en ningún caso el molino erijido antes debía privarse del agua acostumbrada. La Ley 19, Título 15, prescribía que el *dominio*, uso y goce de las aguas que brotan y mueren dentro de los límites de una heredad, pertenecían al propietario de la tierra. Entiendo que este último principio se ha mantenido en casi todos los países Hispano-Americanos.

La Ley de las Siete Partidas, en cuanto a *servidumbres* ha ejercido una importante influencia en la jurisprudencia subsiguiente. Se siguieron muy de cerca a este respecto, las Instituciones de Justiniano. Para nuestro propósito actual es bastante el que llamemos la atención hacia el hecho de que la servidumbre de *acueducto* estaba reconocida, es decir, el derecho de conducir el agua a través del fundo sirviente para el beneficio del fundo dominante para usarla en molinos o en irrigación (Partida 3, Título 31, Ley 4). El derecho podía también extenderse hasta cubrir la *toma* de agua original del fundo sirviente, en cuyo caso el dueño de éste no podía conceder un derecho igual á tercera persona, sin el consentimiento del propietario del fundo dominante, a ménos que el agua fuera suficientemente abundante para bastar para todos (id. Ley 5): Por otra parte, el beneficiario de la servidumbre, después que el agua hubiera llegado a su terreno, podía concederla á sus vecinos para irrigación (id. Ley 12). Estas servidumbres podían obtenerse por prescripción (id. Ley 15). Otras leyes de las Partidas prescriben los derechos y deberes originados por razón de una servidumbre de acueducto y que nacían de su uso, como los que existían entre los dueños del curso superior e inferior de las aguas corrientes (id. Título 32; Ley 15). Esta servidumbre de acueducto aparece haber sido solamente una servidumbre voluntaria, es decir, creada por acto voluntario de las partes; pero parece ser la madre legítima de la servidumbre moderna, por ministerio de la ley, en caso de necesidad, que constituye una condición tan beneficiosa de la ley moderna Hispano-Americana.

La Ley, desde muy temprano, prohibió el arrojar á los ríos substancias dañosas para la pesca; reglamentó los medios y prescribió las estaciones para la pesca de ríos, prohibiendo, *inter alia*, la des-

¹El famoso comentador Gregorio Lopez duda de que esto fuera permitido en el caso de ríos navegables.

viación de la corriente (Año 1475; Leyes 9 y 10, Título 8, Libro 7, Recopilación: Leyes 8 y 9, Título 30, Libro 7. Novísima Recopilación).

Por una ley del Rey Enrique III (Ley 2, Título 10, Libro 7 de la Recopilación; Ley 7, Título 26, Libro 7 de la Novísima Recopilación) se prohibía a cualquier Concejo o persona particular el cerrar anales y rios a la pesca y navegación o embargarlos para otros usos, aún para usos de la ciudad, excepto en virtud de especial privilegio del Rey.

Esto es importante para mostrar que el Rey reclamaba y ejercía un derecho privilegiado de otorgar franquicias especiales en relación con rios navegables y con detrimento del publico o del derecho común de navegación.

En la época inmediatamente anterior á la Independencia de las Colonias, volvieron a colocarse en primera línea los derechos públicos. En una Real Orden de 1795 (Ley 16, Título 30, Libro 7, Novísima Recopilación), se reconoció como ley vigente que "el derecho de la pesca en los rios es de suyo tan libre y general como el de la navegación; y por lo mismo la facultad privativa de pescar en algún sitio determinado no puede derivarse *sino* de *privilegio Real* o de una posesión inmemorial que haga presumir el privilegio Real." La existencia de esos derechos privativos, cualquiera que hubiera sido su origen, quedaba reconocida, pero "nunca supone la facultad de estorbar la libre navegación de los rios, ni tampoco el derecho de pescar fuera del lugar determinado por el mismo privilegio", ni estorbar el derecho público de pescar en otros lugares; y de allí el que las exclusas que cruzaran los ríos, fueron prohibidas.

La industria minera fué también una de las principales influencias en España para formular las leyes de aguas y especialmente para contrarrestar cualquier indebida tendencia hacia la santificación de los derechos privados ribereños. Felipe II promulgó en 1584 importantes *Ordenanzas de Minería* (incorporadas como Ley 4, Título 18, Libro IX, Novísima Recopilación). Ellas permitían que el agua fuera libremente tomada para los usos necesarios de minería, de los rios y arroyos, así como de otras fuentes, "en la parte que más convenga á los mineros" (Item 47). Si las operaciones mineras no pudieran efectuarse de otro modo sin daño o perjuicio de algún pueblo o de los ganados, se prevenia que "el agua se saque á estanques sin que vuelva de nuevo al rio", y naturalmente, los gastos de construcciones adicionales, tenían que ser he-

chos por los mineros. Estos podían obtener por expropiación los terrenos necesarios.²

Ley Colonial: La Ley Civil Colonial, seguía, en general, á la Ley Española, pero debe recordarse que las Indias eran consideradas en general como la hacienda y propiedad particular de la Corona. Se dice³ que el Rey de España se reservó siempre el dominio de los ríos de América (Solórzano, Política Indiana, Cap. II—libro 6). Por otra parte, las leyes de Indias (Recopilación de Indias, Ley 5, Título 17, Libro 4) por el contrario, declaran que “los montes, pastos y aguas que no están concedidos á particulares son cosas *comunes á todos*”. Pero era usual que el Rey incluyera los ríos en las grandes concesiones hechas por él, y la propiedad privada de ríos y otras aguas fué reconocida en muchas reales órdenes (e. g., Ordenanzas de Minería de Nueva España. Título 19, Art. 9).

Las necesidades industriales de las escasamente pobladas Colonias no hacían imperativa una clara demarcación de los derechos de aguas. La confusión que en la materia existía en la Ley Colonial, ha sobrevivido en gran parte, a pesar de, o talvez en varios casos con motivo de los Códigos Modernos. Como estos se basaron en los Códigos Franceses, se introdujeron nuevos elementos de confusión; y ha sido solamente en los años muy recientes que la ley ha hecho algún marcado progreso hácia la solución de los intrincados problemas que los Códigos dejaron sin resolver, en contradistinción de las grandes y arbitrarias facultades para otorgar especiales concesiones, ejercitadas por los gobiernos dictatoriales.

Estas diferentes fuentes Europeas de nuestras leyes Americanas de aguas deben tenerse presentes cuando se hace alguna aseveración de las leyes de los países Pan-Americanos, y particularmente al hacer alguna comparación entre las leyes de estos varios países. En los Estados Unidos existe el mayor desarrollo actual, así como el mayor desperdicio de los recursos hidráulicos. También en ese país existe la mayor cantidad de leyes y jurisprudencia con respecto a derechos de aguas, y al mismo tiempo la mayor falta de consistencia y raciocinio en tal legislación.

Para principiar, pues, hemos de discutir la situación en los Estados Unidos.

²Una traducción de las leyes Españolas más modernas, como las enumera Escriche, puede verse en *Water on Water Rights* (3 Ed.) pags. 961-962-963-964.

³Velez Sarsfield—Notas al Art. 2340 del Código Civil Argentino.

LEY DE LOS ESTADOS UNIDOS

En cantidades aproximadas el desarrollo* potencial de fuerza hidráulica en los Estados Unidos alcanza á 150,000,000 kilowatios. De esta cantidad 20,000,000 kilowatios de fuerza hidráulica están situados de tal modo que su desarrollo es factible, en caso que solamente condiciones razonables fueren impuestas al empresario interesado en el desarrollo. De este último número de kilowatios solamente cerca de un quinto se encuentran en actual desarrollo y uso y los otros cuatro quintos se desperdician. El 75% de ese desperdicio de energía en fuerzas hidráulicas está situado en corrientes navegables, y está, por consiguiente, directa o indirectamente sujeto a la legislación Federal. El 25% sobrante, o sean mas o menos 4,000,000 kilowatios está situado en corrientes más pequeñas, en los diversos Estados y está directamente sujeto á las reglamentaciones del Estado. Este inmenso desperdicio se debe, en consecuencia, primeramente a deficiencias de la legislación Federal y tambien en gran parte a defectos en la legislación de los Estados.

En los Estados Unidos el Gobierno Federal tiene facultades expresas y limitadas. Tiene solamente las facultades de legislación expresamente marcadas por la Constitución Federal, reservándose expresamente para los diversos Estados todas las demás facultades de legislación y manejo. En consecuencia, la única facultad otorgada al gobierno Federal, que aún indirectamente toca el asunto de los derechos de agua, incluyendo la fuerza hidraulica, es la que confiere al Congreso el poder para "regular el comercio" entre los Estados. La jurisprudencia establece que la facultad para "regular el comercio" incluye la de regular las vias del comercio para la protección de la navegación; y que por consiguiente, el control Federal del comercio entre los Estados abarca la reglamentación y control, para la protección de la navegación, de todas las corrientes navegables del país. También se establece que dentro de esa facultad de controlar, está la de prohibir la construcción de diques u otras obras a travéz o sobre los lechos de tales corrientes navegables, excepto con el consentimiento del Congreso y en virtud de un permiso que contenga las restricciones que marque la Secretaría de la Guerra y el Jefe de los Ingenieros hasta donde se juzgaren necesarias para hacer que las obras sean racionalmente consistentes con la navegación o que no la obstaculizen indebidamente. El Congreso ha de-

*Report U. S. Commissioner of Corporations, March 14, 1912; Senate Document 274, 62d Congress, 2d Session, pp. 11-14, 211, 273; "Water Power Resources of the U. S." por M. O. Leighton, presentada á este Congreso Pan-Americano.

cretado leyes reglamentarias con el objeto ostensible de la navegación, pero concebidas de tal manera que en verdad no son sino impedimentos sin razón y sin necesidad, para el desarrollo de las fuerzas hidráulicas.⁴

LEGISLACIÓN FEDERAL

La actual retardación originada por la legislación Federal y sus posibles remedios comprenden tres clases de Control Federal de las fuerzas hidráulicas.

Fuerzas Hidráulicas en propiedades del Dominio Público: El "dominio público" comprende aquellos lotes de terrenos en su mayoría situados en los Estados del lejano occidente, de propiedad del Gobierno Federal en virtud de un título que en su naturaleza es título de propietario, distinto del título de simple soberanía ó derecho de control o reglamentación para un interés público especial. Esos terrenos comprenden aquellos que se llaman reservas forestales. Ligadas con esta misma clase existen fuerzas hidráulicas que no están ni en todo ni en parte en propiedades de público dominio, pero cuyo aprovechamiento, ya para inundaciones, líneas de transmisión u otros fines, requieren algún uso mayor o menor, de terrenos que son parte del dominio público.

Con el fin de desarrollar fuerzas hidráulicas que son parte del dominio público, el empresario debe primeramente obtener un permiso del Departamento del Gobierno que tenga jurisdicción en el asunto de las tierras respectivas. Generalmente este es el Departamento del Interior ó de Agricultura. El permiso deberá comprender el derecho de construir y mantener y operar el dique, la planta de fuerza y las líneas de transmisión. Pero tal permiso es revocable a voluntad del Departamento que lo concede, y está sujeto a las condiciones que el Departamento imponga, no solamente cuando se extiende el permiso sino después de concedido. En determinados casos, por cierto, el permiso queda automáticamente revocado, como cuando un tercero obtiene una adjudicación o patente en virtud de las leyes de habitación (*homestead*) ó de minería.⁵ Esta facultad ilimitada de imponer condiciones en el permiso y de cambiar-

⁴Ley de 3 de Marzo, 1899, Sec. 9, 30 U. S. Stat. L. 1121; Ley de 21 de Junio, 1906, 34 U. S. Stat. L. 386; Ley de 23 de Junio, 1910, 36 U. S. Stat. L. 593, (The Dam Acts).

⁵Ley de 26 de Febrero, 1897, 29 U. S. Stat. L., 599; Ley de 4 de Junio, 1897, 30 U. S. Stat. L. 34-36; Ley de 15 de Febrero, 1901, 31 U. S. Stat. L. 790; Ley de 1 de Febrero, 1905, 53 U. S. Stat. L. 628; Ley de 25 de Junio, 1910, 36 U. S. Stat. L. 847, (Public Domain Acts).

⁶Leyes de 26 de Feb. 1897, 4 de Junio, 1897; 15 de Feb. 1901 y 1 de Feb. 1905.

las, faculta al jefe del Departamento para establecer cargas pecuniarias y tributos, el monto de los cuales, de cuando en cuando, depende de la discreción de tal empleado. No tiene facultad para otorgar un permiso por un término que por algún tiempo pudiera dar estabilidad á la inversión, ni la facultad de hacer que los plazos y condicionés del permiso estén libres de incertidumbres sin límite. El capital privado se ha detenido ante tales condiciones tan poco mercantiles. De mas de 5,000,000 kilowatios de fuerza hidráulica que estan bajo la ley de Dominio Público y que pudieran hoy recibir un desarrollo comercial, menos de un décimo de esa cifra han sido aprovechados.

Pero, esas reglas prohibitivas no son solamente aplicables á las fuerzas hidráulicas que son parte del dominio público. Existen muchos millones de kilowatios de fuerza hidráulica desarrollable situados de tal manera que su desarrollo y aprovechamiento requieren algún uso de la propiedad del dominio público ya sea para las plantas de fuerza o ya para las líneas de transmisión. Bajo las leyes actuales tal uso incidental, aún siendo pequeño, de una porción de terreno del dominio público, está sujeto á permisos extendidos por empleados del Gobierno, permisos siempre revocables a voluntad y sujetos a condiciones, y cambios de éstas, a discreción del empleado que concede el permiso. Esto aumenta las circunstancias de incertidumbre en la posesión y de condiciones indefinidas y cambiables, de tal modo que, el desarrollo de esta clase de fuerzas hidráulicas, por mucho años ha estado y aún está paralizado.

Fuerzas hidráulicas en Corrientes Navegables: Siguen las fuerzas hidráulicas situadas en corrientes navegables que están fuera del dominio público. El poder de control que sobre estas tiene el Gobierno Federal, nace solamente de su limitado poder para regular el comercio. Este, en ningun caso, es un derecho ó interés de propietario. Es simplemente un limitado derecho soberano de control para un fin particular especificado. Con sujeción solamente a ese limitado derecho supremo todos los derechos de reglamentación y todos los derechos de dominio al uso y beneficio de las fuerzas hidráulicas, pertenecen a los Estados y a sus ciudadanos, siendo la ley del respectivo Estado la que regula los derechos de propiedad.

La Ley de 3 de Marzo de 1899, ya citada, en armonía con el poder constitucional que el Congreso tiene para reglamentar el comercio, dispone que no se construyan en los lechos de una corriente navegable, sin el consentimiento del Congreso, obstáculos de ninguna especie, inclusive los diques para fuerzas hidráulicas.

Esta prohibición y la facultad reservada de consentimiento, son lógicamente mantenidas con el solo objeto de proteger los actuales y futuros usos de las corrientes en la navegación. El mencionado consentimiento, hasta 1906, de acuerdo con la disposición de 1899 y las semejantes disposiciones anteriores, había sido únicamente otorgado por ley especial del Congreso. Cada consentimiento legal contenía las cláusulas que se hubieran convenido entre el Congreso y el empresario privado que era el concesionario del consentimiento. Estas diferentes leyes especiales varían en la naturaleza de sus condiciones; pero en virtud de la mayoría de ellas se han llevado a cabo construcciones y se han adquirido derechos perfectos. No obstante, la tendencia legislativa a no parar atención en los derechos privados de propiedad y en inversiones hechas de buena fé, es evidente en la aseveración que hoy hacen muchas personas de que la facultad general de repudiar ó de enmendar, reservada en esas leyes especiales, hace que esas inversiones queden legalmente sujetas a cualesquiera cargas posteriores y a cualesquiera condiciones que en cualquier tiempo el Congreso arbitrariamente les imponga.

Esta aseveración está originada, no solamente en la creciente tendencia de los legisladores a pasar por alto los derechos en equidad y legales de las inversiones ya efectuadas, sino también en la creciente prevalencia de esa clase de agitadores que falsamente pretenden representar la causa de la conservación. Haciendo caso omiso de las limitaciones constitucionales para legislar en asuntos de fuerza hidráulica, ellos arguyen que, como las fuerzas hidráulicas existentes en corrientes navegables pueden legalmente desarrollarse solamente después de obtener el consentimiento del Congreso, por consiguiente el Congreso puede agregar a tal consentimiento cualesquiera condiciones que quiera establecer,—que puede legalmente imponer cualesquiera cargas sobre el empresario o reservar cualquier derecho o tributo u otra ventaja para el Gobierno, todo como condiciones para la concesión. Lo que la constitución no permite directamente, mejor dicho, lo que ella prohíbe, ellos llevan a cabo por medios indirectos. Ellos solicitan legislación por la cual las ventajas del uso de fuerzas hidráulicas y las rentas que de ese uso puedan derivarse, se quiten ya sea a los Estados en los cuales están situadas o a los individuos que tienen derecho de propiedad sobre ellas, para entregarlos al gobierno general como representante del público en general.

La defensa de esta teoría de conservación y la lucha sobre su aplicación en forma legislativa, han sido, más que ninguna otra, la

causa de la falta, en los Estados Unidos, de legislación adecuada para el desarrollo de las fuerzas hidráulicas. Se intentó, por las Leyes de 21 de Junio de 1906 y de 23 de Junio de 1910, establecer las condiciones legales para cualesquiera concesión del Congreso de modo que en lo sucesivo los términos de esas Leyes debían formar parte de cualesquiera concesión que se otorgara. Fué la falsa teoría de conservación, ya citada la que hizo esas leyes prohibitivas en vez de alentadoras para las empresas privadas. Son también los mismos pseudo-conservadores los que están clamando por más restricciones legislativas y más cargas sobre las empresas, y los que están ahora impidiendo a los legisladores en la presente administración en Washington, sus esfuerzos para dictar leyes que hayan de remover los actuales obstáculos legales que impiden las empresas privadas.

Por estas Leyes de 1906 y 1910, el plazo de la concesión no puede exceder de cincuenta años; y al final de ese plazo cesan los derechos del empresario. Más aún, antes de la expiración de los cincuenta años, la concesión puede arbitrariamente ser revocada sin indemnización para el empresario sino de una parte de la suma necesariamente invertida. En consecuencia, el empresario, debe, además de lo que de otra manera habría de considerarse como cobro legítimo del servicio, cargar por servicio a sus consumidores lo que sea suficiente, durante ese plazo, para reembolsarle del costo total de su inversión. No se hace caso alguno del hecho de que el empresario tiene que esperar cinco ó diez ó más años para crear un mercado que pueda consumir los productos de la capacidad total de su planta. Por razón de las crecidas cargas de servicio que se le imponen, no puede el empresario vencer la competencia que le presentan con fuerza de vapor, la que en muchos lugares, al costo actual para producirla, es casi igual. Por cierto que, en algunos lugares, las ventajas están en favor de la fuerza de vapor. Además de esto, las mismas Leyes reservan para el Departamento de Guerra del Gobierno, la facultad de imponer condiciones como parte del permiso que deba expedirse por dicho Departamento de acuerdo con el consentimiento del Congreso, y también le reserva la facultad de cambiar tales condiciones, a discreción. No se fija límite á esas posibles condiciones y cargas, haciendo así que sean vagas é inciertas las bases del permiso y las condiciones que hayan de cumplirse.

Estas Leyes y la política que ellas proclaman han sido de tal modo prohibitivas para la inversión, que los empresarios, casi sin excepción, han rehusado solicitar ó aceptar permisos en virtud de

ellas. Su efecto prohibitivo sobre la inversión y por consiguiente sobre el desarrollo de las fuerzas hidráulicas ha quedado demostrado por la experiencia. Los informes dados al Congreso por aquellos que han investigado la cuestión oficialmente ó de otro modo, están reconocidos demostrar por cuantos se preocupan por buscar una solución apropiada para el problema que las leyes vigentes son del todo insuficientes.⁶

El actual Congreso está ahora debatiendo esta cuestión. Aquellos que aprecian la situación tratan de remover los actuales obstáculos legales lo bastante para ofrecer términos y condiciones comerciales para la inversión privada. Ellos desearían hacer los términos y condiciones del permiso del Gobierno suficientemente amplias para admitir la conservación de todos los intereses actuales y futuros de la navegación. Ellos quisieran, sin embargo, hacer todas las condiciones y todas las cargas que pesen sobre el empresario, tan específicas y tan definidas como fuere posible, á fin de que el empresario pueda saber por adelantado la extensión de la inversión última e indispensable. Quisieran hacer que el plazo del permiso fuera indeterminado y revocable solamente con causa o renovable a su terminación, bajo bases favorables, asegurando así una razonable estabilidad de la inversión y evitando la necesidad de cargos excesivos por servicio a los consumidores. La cuestión de tarifas para los consumidores, se ha propuesto que se deje a los Comisionados Públicos en el respectivo Estado. Los intereses públicos habrán de ser protegidos por medio de provisión amplia para la revocatoria de los permisos para el caso de que un concesionario faltare al cumplimiento de las condiciones que para la concesión se le impusieron.

El que esa legislación correctiva llegue a promulgarse, depende del punto a que los pseudo-conservadores, antes mencionados, puedan hacer llegar su influencia contra las medidas que están en discusión. Estos obstruccionistas están haciendo una organizada campaña con el fin de crear prejuicios en el ánimo del público en general y en el de los miembros del Congreso y preparándolos en contra de la medidas que corrijan los males apuntados y alienten a los empresarios. Intertanto los miembros prominentes del Congreso, la mayor parte de los cuales están bien informados en este asunto, están trabajando, sin tomar en cuenta partidismo político,

⁶Informe "National Waterways Commission" al Senado, documento 469, Congress 62º, 2ª Sesión, página 54. Véase para mayor ilustración en este asunto; "Water Conservation by Storage." Capítulos I-V, por el Prof. George F. Swain; Impreso por la Yale University, 1915.

para unirse a esta administración en el esfuerzo de promulgar la sola legislación que habrá de destruir los obstáculos para el desarrollo de las fuerzas hidráulicas.

Fuerzas Hidráulicas en los Diques de Navegación del Gobierno.—Existe una tercera clase de fuerzas hidráulicas, no incluida en las dos antes referidas, la que está también bajo el control del Gobierno Federal, el cual control, sinembargo, descansa en una base distinta de aquella en la que descansa el de las otras dos. A veces el Gobierno Federal, a su propio costo construye y opera diques de navegación para el uso del público en general. En tales diques, el agua que no es necesariamente usada en la navegación, presenta oportunidad, con el volumen y la caída de la represa, para el desarrollo de fuerza hidráulica. Tal fuerza hidráulica es incidental. El Gobierno, sinembargo, habiendo obtenido los derechos ribereños para sus mejoras en la navegación, se convierte por ese hecho en propietario de tal fuerza hidráulica incidental. La amplitud de sus derechos de propietario depende de la extensión hasta la que haya adquirido los derechos ribereños, porque, para tales derechos, como ya hemos visto, se exige el derecho de propiedad. También depende, naturalmente, de la extensión hasta donde la ley del Estado, en el cual está situado el dique, concede al propietario de los derechos ribereños el derecho de propiedad para el uso de la fuerza hidráulica adyacente a su terreno.

Cuando el Gobierno ha adquirido todos los derechos ribereños a que son adyacentes las fuerzas hidráulicas y a su propio costo ha construido el dique de navegación, entónces la fuerza motriz desarrollada incidentalmente por ese dique, debe legalmente considerarse que pertenece al Gobierno y podrá ser concedida, alquilada, arrendada o vendida por el Gobierno como cualquiera otro propietario.

Pero, en muchos casos, las condiciones físicas son tales que el desarrollo de la fuerza motriz sola sería tan costoso que no podrían sacársele razonables beneficios para el empresario. Al mismo tiempo, la mejora para la navegación a costa del Gobierno sería demasiado costosa, ya sea como mejora para la navegación o como fuerza motriz, o para ambos fines. En tales casos el interés público quedará mejor servido por la cooperación entre el Gobierno, en interés de la navegación y el empresario particular para obtener provecho de la fuerza motriz. Esta clase de casos se soluciona por el sistema de arreglo cooperativo por el cual el empresario contribuye con parte de la inversión, hasta donde le es conveniente

para su negocio, y el saldo lo proporciona el Gobierno. En consecuencia, tanto la navegación obtiene la mejora deseada, como se procura el desarrollo de nuevas fuerzas hidráulicas. Las condiciones de tales convenios varían según las especiales de cada caso. Lo dicho se aplica a aquellos diques que, bajo el punto de vista del Gobierno, se consideran principalmente como diques de navegación para la construcción y operación de los cuales se necesitan arreglos especiales.

Cuando una represa ó dique para fuerza hidráulica se construye con capital privado en virtud de consentimiento del Gobierno, el sistema antes aplicable así como el de la legislación propuesta, tienen en mente que, hasta donde se compadezca con una razonable inversión de capital y un razonable provecho derivado de ella, el empresario particular debe construir, mantener y operar libre de gastos para el Gobierno, las obras que produzcan facilidades para la navegación como una parte de y en conexión con su aprovechamiento de fuerza motriz. Esta carga se considera que habrá de imponerse dentro de la facultad de control en razón de los intereses de la navegación.

LEGISLACIÓN DEL ESTADO

El control de la fuerza hidráulica de todas las corrientes de agua, sean o no navegables, pertenece a los Estados dentro de los cuales está situada la fuerza hidráulica respectiva, si bien la protección de la navegación está bajo el dominio supremo del Gobierno Federal como se definió anteriormente. Esto se aplica a los Estados primitivos y a aquellos que desde entónces se han admitido a la Unión, y en cuanto al Estado y a, los particulares el interés propietario, y su carácter y alcance se determinan por la ley de derechos de propiedad establecida en los respectivos Estados.⁷

De acuerdo con estos principios, definitivamente establecidos, el Congreso ha reconocido explícitamente por las leyes Federales la eficacia controladora de las leyes locales sobre la propiedad y los usos con respecto a los derechos sobre aguas existentes en aquellos Estados en donde el Derecho Comun (*common law*)* ha

⁷St. Anthony Falls Water Power Co. v. Water Commissioners, 168 U. S. 358 y juicios citados allí.

*El derecho comun (*common law*) es el cuerpo de derecho consuetudinario ingles heredado por los Estados Unidos, con las modificaciones aplicables a America y tal como se interpreta por los tribunales. Es jurisprudencia en contradistinción de las leyes escritas. Nota del Trad.

sido revocado o modificado, y ha confirmado por leyes escritas la regla establecida por las resoluciones de la Corte Suprema Federal arriba citadas.⁸

En efecto, para determinar la ley de los derechos de propiedad del ciudadano en contraposición con los del Estado, o de cualquiera de estos o de ambos contra los del Gobierno Federal, y para determinar la regla por la cual están regidos el Gobierno Federal y sus Cortes, tenemos que recurrir a las leyes establecidas por los respectivos Estados. Por consiguiente, es la llamada "doctrina de Colorado" la que rige en Arizona, Colorado, Idaho, Nuevo México, Nevada, Utah y Wyoming, por la cual se rechaza el Derecho Comun (common law) de los derechos ribereños y del dominio de la fuerza hidráulica y prevalece la doctrina del control por parte del Estado y hay leyes del Estado que permiten y regulan la apropiación de las aguas para fuerza hidráulica y para otros usos privados con preferencia en el orden de apropiación real.⁹

En otros Estados del lejano Oeste predomina la "doctrina de California", por la cual rige el Derecho Comun (common law) de los derechos ribereños, modificada únicamente por los derechos de apropiación adquiridos antes de que las tierras ribereñas pasaran a ser de propiedad particular. Se sigue esta regla en California, Kansas, Montana, Dakota del Norte, Oklahoma, Dakota del Sur, y otros Estados.¹⁰

En los Estados situados al Este o vecinos al Rio Mississippi predomina generalmente la regla de Derecho Comun (common law) de los derechos ribereños. En estos Estados, hasta donde se ha conservado el derecho comun (common law) de los derechos ribereños, el derecho al uso provechoso de la fuerza hidráulica es parte y anexidad de la tierra y pertenece al propietario ribereño. El estado no tiene derecho de control o dominio en carácter de dueño particular. Sus derechos se reducen á los de soberanía para controlar el uso público de la navegación. Todos los derechos de intereses verdaderamente propietarios pertenecen al dueño

⁸Ley de 26 de Julio de 1866, 14 U. S. Stat. L. 253, y otros Estados Federales arriba citados; tambien la Ley de 3 de Marzo de 1891, que deroga las leyes de bosques; y Ley de 4 de Junio 1897, Servicio de Bosques.

⁹Land and Canal Co. v. Ditch Co., 18 Colo. 1; Kansas v. Colorado, 206 U. S. 46; Boquillas Co. v. Curtis, 213 U. S. 339; Estados Unidos v. Rio Grande Co., 174 U. S. 706.

¹⁰Lux v. Haggin, 69 Cal. 355; Bigelow v. Draper, 6 N. Dak. 152; Sturr v. Beck, 6 Dak. 71, 133 U. S. 541.

ribereño y alcanzan al uso general de la fuerza hidráulica, incluyendo los beneficios y rentas que de allí se obtengan.¹¹

La distinción en cuanto a las corrientes de agua navegables, de que en algunos Estados los derechos ribereños alcanzan solamente a la línea de alta marea con el derecho soberano limitado al lecho y a las aguas, y que en otros Estados los derechos ribereños alcanzan a la línea media de la corriente de agua, sujeta al dominio soberano para la navegación, es, para fines prácticos, puramente especulativa.¹²

La regla es la misma ya esté la corriente dentro del Estado, entre Estados, o en un lindero internacional.¹³

Tanto los derechos, reservados por los Estados y establecidos en ellos, como los de propiedad de los usos de aprovechar las aguas que la ley del Estado da al dueño ribereño, están supeditados solamente por el supremo control del Gobierno Federal con el fin definido y expreso de proteger la navegación. La autoridad del Congreso se limita a impedir cualquier infundada intervención con la navegación.¹⁴

Aunque los intereses de la navegación son privilegiados, el derecho soberano del Gobierno, ya sea nacional o del Estado, de controlar o proteger para este o para cualquier otro uso público, siendo como es, un interés opuesto, no es inconsistente con el ejercicio del derecho particular. Cada uno debe respetar al otro, pero el derecho particular persiste hasta el punto en que su ejercicio se convierte en una intervención irracional contra el derecho público. Ambos derechos son limitados, pero el ejercicio del derecho público limitado no se puede usar como medio para extinguir o apropiarse el derecho particular.¹⁵

Cada Estado, con subordinación al ejercicio de la facultad Federal de control, que ha sido definido anteriormente, tiene el

¹¹St. Anthony Falls Water Power Co. v. Water Commissioners, 168 U. S. 358, citando la ley civil de propiedad de Minnesota, la que en sustancia es la de todos los Estados que reconocen derecho ribereños.

¹²Union Depot Co. v. Brunswick, 31 Minn. 297; Lamprey v. State, 52 Minn. 181; Hobart v. Hall, 174 Fed. 433, aff'd 186 Fed. 426.

¹³United States v. Chandler-Dunbar Co., 209 U. S. 447; Niagara County v. College Heights Co. 111 N. Y. App. Div. 770; People v. Smith, 70 N. Y. App. Div. 543, aff'd 175 N. Y. 469.

¹⁴Union Bridge Co. v. Estados Unidos, 204 U. S. 399.

¹⁵State *ex rel.* Wausau Street R. Co. v. Bancroft, 148 Wis., 124; Crookstone Co. v. Sprague, 91 Minn. 461. En este y en otros puntos vease "Limitations of Federal Control of Water Powers", por Rome G. Brown, S. Doc. No. 721, Cong. 62. 2a. sesión.

derecho de control sobre todas las corrientes de agua, o parte de ellas, ya sean o no navegables, que están situadas dentro del Estado, y sobre las fuerzas hidráulicas que allí se encuentran. Esto no quiere decir que cada Estado pueda por medio de legislación hacer de la fuerza hidráulica dentro de sus límites una fuente de rentas y beneficios y ventajas para el Estado mismo. Cada Estado y su poder legislativo tiene que respetar la ley sobre derechos de propiedad con respecto a fuerzas hidráulicas que ha sido establecida en ese Estado y bajo la cual se han obtenido derechos adquiridos de propiedad. Esto hace que discrepe la jurisdicción de los varios Estados sobre fuerzas hidráulicas. Hablando en términos generales, en cualquier Estado en donde la ley de la propiedad pública y de control de fuerzas hidráulicas ha sido establecida como parte del derecho civil que rige en el Estado, una ley basada sobre la citada propiedad y dominio públicos y que no perjudica, los derechos de propiedad particular allí establecidos, sería válida y constitucional capaz de ser puesta en vigor. En tales Estados, se obtienen derechos de agua particulares con sujeción á las leyes que regulan las licencias de apropiación y que de diversos modos controlan y limitan el derecho de uso particular. Esos Estados son aquellos que se extienden al Oeste del Mississippi en los que la doctrina de que los ribereños son los dueños de las aguas, no ha sido nunca establecida o ha sido establecida en una forma modificada.

Pero la regla es diferente en aquellos Estados que, como he dicho, se extienden generalmente a lo largo de, o al Este del Rio Mississippi, y en los cuales los derechos de dominio de los ribereños, sobre corrientes de agua, ya sean o no navegables, han sido establecidos como perfectos derechos de propiedad. En tales Estados una ley no sería constitucional si se basara sobre la teoría de que la fuerza hidráulica es una riqueza que pertenece al Estado en su totalidad, y que las ventajas y beneficios que se obtengan de la fuerza hidráulica utilizada, pertenecen en primer lugar al Estado entero. Tal ley se declararía inválida por las Cortes como confiscatoria de los derechos particulares de los ribereños ya adquiridos y perfectos. Se debe tomar en cuenta que los derechos adquiridos de propiedad, a que se alude anteriormente y que estan protegidos por la constitución no se limitan simplemente al derecho de sacar beneficio de fuerza hidráulica ya utilizada. El derecho de desarrollo, esto es, el derecho de uso de las aguas que pertenecen a terreno ribereño, ya se haya

aprovechado la fuerza hidráulica o no, es en sí mismo una anexidad de la propiedad del inmueble. Como dicen los libros, es un derecho que pertenece al terreno ribereño *jurae naturae*. Bajo nuestra ley, la única diferencia entre las corrientes navegables y las que no lo son, es, que el derecho de propiedad esta sujeto, en el caso de corrientes navegables, al ejercicio del control soberano Federal con el expreso objeto de proteger los intereses de la navegación.

Al formular la legislación sobre fuerza hidráulica del Estado estas distinciones muchas veces no se toman en cuenta. Algunos Estados han instituido comisiones para controlar la fuerza hidráulica conforme á leyes que tienen del derecho público de dominio y control ideas exageradas, y que efectivamente restringen los derechos adquiridos de los propietarios ribereños hasta el punto de confiscación. Hasta donde estas leyes son constitucionales y exequibles, queda todavía por determinar por las Cortes.

En algunos Estados las Cortes se han declarado ya en contra de semejantes atentados de confiscación. El Poder Legislativo de Wisconsin decretó una ley hace dos años, que se basaba sobre la teoría de la propiedad y control del Estado sobre la fuerza hidráulica, y que, en sustancia, intentaba abrogar la ley de propiedad ribereña. La corte suprema de Wisconsin declaró inválida inmediatamente esta ley apoyándose en el hecho de que infringía los derechos de propiedad particular establecidos que pertenecían a las heredades ribereñas.¹⁶

Sin embargo, se puede afirmar que los diferentes Estados, ansían el desarrollo de sus respectivas fuerzas hidráulicas y su utilización; y que, si se limitara la legislación de la fuerza hidráulica á la de los Estados, no habría falta de progreso como el que existe ahora en los Estados Unidos con respecto al desarrollo de las fuerzas hidráulicas. La demanda actual es por grandes sitios para instalaciones hidráulicas y no para sitios pequeños, tales como se encuentran en corrientes de agua pequeñas y no navegables. Existe la demanda por las instalaciones hidráulicas sobre los grandes "rios navegables" de la nación. Esto no quiere decir solamente aquellos rios que son actualmente navegables. El término abraza todos los rios, y aquellas partes de los rios que se pueden mejorar artificialmente con ventaja para el comercio fluvial. Incluye pues, aquellas corrientes de agua en que están situadas en su generalidad todas las fuerzas hidráulicas de esta nación.

¹⁶State *ex rel.* Wausau Street Railway v. Bancroft, 148 Wis. 124.

La legislación de los Estados no puede nunca destinar esta fuerza hidráulica a la utilización hasta que la legislación federal no se haya regulado de tal manera que el capital particular pueda sentirse con razonable seguridad al invertir dinero en el aprovechamiento de tales fuerzas hidráulicas.

El capital invertido en fuerzas hidráulicas en los Estados Unidos aguarda a que se quiten todos los obstáculos de la Legislación Federal que imposibilitan la inversión de dinero. Hasta tanto que no se quiten estos obstáculos, la fuerza hidráulica de los Estados Unidos seguirá perdiéndose. Mientras tanto el desarrollo industrial que de ahí se originaría en esta nación se hace ir a naciones extranjeras en donde rige una política legislativa menos suicida.

No sería consistente con el alcance limitado de esta memoria sumarizar las leyes de todas y cada una de las naciones Pan-Americanas con respecto a los derechos sobre aguas. Sigue aquí un resumen de las leyes de aquellas naciones que pueden tomarse como típicas.¹⁷

LA FUERZA HIDRÁULICA EN SUR AMÉRICA

Antes de ocuparnos de las leyes que rigen los derechos de aguas y el aprovechamiento de la fuerza hidráulica en las diferentes naciones Hispano-Americanas, es interesante observar, como dice el Sr. Lewis R. Freeman,¹⁸ un notable Ingeniero Hidráulico Americano y una autoridad en el aprovechamiento de fuerzas hidráulicas, que "Sur América, aunque posee magníficas posibilidades hidráulicas, es más escasa en aceites minerales y carbón que cualquier otro de los grandes continentes, con la posible excepción de Africa". Este continente Sur Americano, en su totalidad, se distingue como "Un campo especialmente favorecido para las empresas hidráulicas". La escasez de combustibles hace que la fuerza motriz de cualquier calidad sea muy costosa. Esta región de la tierra ha sido favorecida con riquezas naturales de combustibles,

¹⁷El autor desea expresar aquí su gratitud al Señor Phanor J. Eder, 60 Wall St., Ciudad de Nueva York, quien es un experto en las leyes de las naciones Hispano-Americanas. El señor Eder nos ha ayudado bondadosamente en la preparación de la revista de las leyes españolas que arriba damos y de las leyes de varias naciones como se muestra en el Apéndice, y que aquí resumimos.

¹⁸Lo que aquí se dice acerca de las condiciones físicas con respecto al aprovechamiento de la fuerza hidráulica en las naciones de Sur America, se ha tomado principalmente de los escritos del Sr. Freeman en su memoria: "Hydro-Electric Operations in South America", publicada en el volumen XXXVII, No. 5, de Noviembre de 1913, del Boletín de la Unión Pan-Americana.

tales como aceites minerales y carbón, en un grado comparativamente insignificante. Las minas de carbón mas importantes en ese continente, situadas en la parte sur de Chile, ofrecen solamente suficiente combustible para llenar las demandas de los vapores costaneros y de los ferrocarriles. Casi todo el carbón que se usa en Sur América se importa del exterior. La producción de combustibles líquidos en forma de aceites naturales, se limita prácticamente a la parte norte del Perú y a una comarca en el Sur-Este de la Argentina. Por otra parte, los tres puntos esenciales en la generación de energía de fuerza hidráulica: caída, volumen, y continuidad de la corriente,—se encuentran en casi todas partes en Sur América; la sección de las Pampas y los áridos distritos del norte de Chile son unas de las pocas excepciones. Las mejores oportunidades para desarrollo de fuerza hidráulica en el mundo entero, en cuanto se refiere a condiciones físicas, se encuentran en las vertientes de las cordilleras de los Andes en Peru, Bolivia y Ecuador, en donde las cataratas, cascadas, y rápidos torrenciales en los rios, se hallan siempre abundantemente suplidas por las nubes preñadas de humedad desde el valle del Amazonas que se disuelven en abundante lluvia en las faldas frias de los altísimos Andes, derramando su carga de energía en los lejanos mares.

Dice el Señor Freeman que Chile es el país mas favorablemente situado en el globo para el desarrollo fácil y comparativamente barato de las fuerzas hidráulicas con excepción posible de Suiza y Kashmir. El país densamente poblado, entre las Cordilleras y la costa presenta posibilidades de fuerzas hidráulicas, para su desarrollo comercial, iguales a las de los países Alpinos. Pero el desarrollo de fuerzas de agua ha sido muy lento; no obstante, algunas instalaciones de considerable magnitud han sido instaladas y están en perfecta operación. Las oportunidades comerciales no desarrolladas para la ventajosa producción de fuerza y para la distribución de energía eléctrica obtenidas de las fuerzas hidráulicas, bajo el punto de vista económico, se encuentran en cómico contraste con las pérdidas y sufrimientos que continuamente se experimentan en Chile por la falta de carbón y de aceite mineral para combustibles.

El Rio Laja, en Chile, es el Niágara de Sud América, pues tiene un volumen poco menor que el Rio Hudson en Albany, y con caídas de mas de 100 pies de altura; y el rio es ideal para instalaciones hidro-eléctricas. En el sur de Chile hay más fuerza hidráulica sin desarrollar, que la que pudiera ser usada en muchas

décadas. El gran río Chosuenko tiene una caída de 150 pies en un punto y presenta la oportunidad práctica para una fuerza motriz hidráulica con 1,200 pies de caída, que puede desarrollar más de 200,000 kilowatios.

El Perú tiene más recursos naturales para combustible, del carbón y del aceite, que ningún otro de los países Sudamericanos; pero por falta de facilidades de transporte, el precio de ese combustible es generalmente prohibitivo. Las oportunidades prácticas para el desarrollo de fuerzas hidráulicas en ese país son casi tan favorables como las de Chile; y, aun cuando ya hay en el Perú instalaciones hidro-eléctricas que desarrollan 75,000 kilowatios, otros aprovechamientos, aun no intentados, podrían hacer factible la satisfacción de la actual demanda.

Comparativamente poco se ha llevado a cabo hasta ahora en Bolivia, Ecuador, Colombia, Venezuela y el Paraguay en materia de desarrollo de fuerzas hidráulicas y producción de energías hidro-eléctricas; pero en estos países la retardación del desarrollo se deriva en gran parte de la desfavorable situación de las fuerzas de agua con respecto de los centros populosos que crean la demanda de ese desarrollo. En la región Argentino-Uruguaya, el gran río Mendoza y sus tributarios, que corren desde las faldas orientales y base de los Andes hasta el Atlántico, presentan muy practicables recursos de fuerzas hidráulicas. Ese río tiene una caída de 9,000 pies en una distancia de 100 millas y presenta posibilidades de fuerzas hidráulicas dentro de una comparativamente corta distancia sobre una sola corriente, que no tienen igual en toda la América, excepto talvez en Alaska. La población y las industrias de la región circunvecina, al alcance de fácil transmisión, ofrecen una demanda aun no satisfecha, de no menos de 200,000 kilowatios de fuerza que son mucho menos que la capacidad del Mendoza.

El mayor centro de población en Sud América, que incluye las grandes ciudades de Buenos Aires, Montevideo, La Plata, y otras que representan cerca de 3,000,000 de habitantes, presenta un mercado ilimitado para fuerza obtenida de las corrientes que vienen desde el Este de los Andes. Sin embargo, los cientos de millas de Pampas que existen entre la costa del Atlántico y la base de los Andes, presentan dificultades para la transmisión, que hasta ahora son prácticamente imposibles de vencer.

En la Guayana Británica, en el Río Potaro, un brazo del Essequibo, existe una caída de agua que es la mayor, en volumen, en el mundo. Aquí el río de 300 pies de ancho, cae 700 pies.

La inmensa energía de esta gran catarata está desperdiciándose hasta que un futuro aumento de población y de desarrollo industrial lleguen a crear tal demanda de fuerza, que el costo de la transmisión a lejana distancia, indispensable para conducir la energía al mercado que la necesite, pueda considerarse económicamente factible.

Pero los obstáculos físicos y la falta de apreciación de las oportunidades brindadas a un desarrollo comercial no son las únicas causas para que en esos países meridionales se desperdicie la energía posible de sus fuerzas hidráulicas, el aprovechamiento de las cuales es ya comercialmente factible. Como en los Estados Unidos, el primer requisito para la promoción del desarrollo de una fuerza motriz hidráulica, y por consiguiente para evitar el desperdicio de ese recurso natural, es el que, por medio de las leyes, se aliente al empresario que ha de proporcionar el capital para el desarrollo hidro-eléctrico. Los riesgos inherentes a tal inversión, aun bajo las leyes y los reglamentos más favorables, son muy grandes. Sin embargo, los riesgos físicos pueden vencerse o disminuirse. Lo que el capital pide en esas inversiones es certidumbre en la posesión y garantía contra la confiscación, bastantes para asegurar la producción de rentas razonables de tal inversión. Esa garantía no puede ser concedida sino por leyes que al mismo tiempo que protejen los intereses del público también protejan los dineros que se inviertan en la utilización de las riquezas hidráulicas con lo cual también se persigue indirectamente el bien del público.

En ninguno de los países de Hispano América las leyes están formuladas de tal manera que atraigan la inversión de capitales privados. El hecho de existir actualmente inversiones hechas, solamente indica la certeza de mucho mayor desarrollo en el inmediato futuro, en el caso en que se disminuyan o eliminen los peligros legislativos que no tienen razón de ser.

DERECHOS DE AGUAS EN LOS PAISES HISPANO-AMERICANOS

En esta parte de esta Memoria solamente presentamos un sumario de las facetas de esas leyes. Para un sumario más detallado, se llama la atención hacia el Apéndice aquí agregado, que ha sido bondadosamente preparado por el Señor Don Phanor J. Eder, abogado de los Tribunales de New York.*

* Se ha juzgado innecesario hacer la traducción del Apéndice por ser tomado principalmente de fuentes españolas de fácil consulta.

ARGENTINA

El poder Federal en Argentina, como en los Estados Unidos, está limitado a la facultad de regular el comercio, y es, con respecto a corrientes de agua, la facultad de regular y proteger la navegación; pero los ríos se consideran como de propiedad del Estado. Los propietarios ribereños no tienen la preferencia debida a la situación de sus tierras ribereñas que se reconoce en los Estados Unidos. Los usos de aguas por particulares están reglamentados por las autoridades administrativas bajo reglas que pueden ser modificadas o revocadas. Por consiguiente, el goce del uso de aguas es inseguro y los derechos de los empresarios, aun en virtud de permisos de las autoridades, son precarios. Aquí se presenta un defecto en las leyes y reglamentos de aguas muy parecido a los defectos que se han sentido en los Estados Unidos con respecto no solamente a fuerzas hidráulicas fuera del dominio público, sino especialmente en aquellas dentro del dominio público. El control nacional de las fuerzas de agua parece en primer lugar haber nacido del derecho de control nacional sobre el comercio, y, como en los Estados Unidos, por asumir que esa facultad envuelve el derecho de control sobre la navegación. Pero en el ejercicio de ese derecho de control, también como en los Estados Unidos, parece haberse extendido a la aserción de un poder, no simplemente de un control para un determinado fin y hasta el límite requerido para el ejercicio del poder limitado, sino como una propiedad del Estado sobre los lechos y aguas mismas de las corrientes navegables o no navegables. La reserva del derecho de cambiar las condiciones de la inversión, que se hacen a quien recibe una concesión del gobierno, tiende a mantener condiciones legislativas que en su propia naturaleza son prohibitivas para la inversión.

CHILE

En Chile, todos los ríos son "bienes nacionales de uso público". El uso de aguas públicas para fuerza y otros fines se adquiere por concesión administrativa. Cada concesionario está sujeto a las ordenanzas locales o generales del gobierno local, sin derechos especiales reservados a los propietarios de propiedades ribereñas. Esta fué la ley hasta 1907, cuando fué promulgada una ley relativa a la "utilización de las corrientes de agua para fuerza". Bajo esta ley el propietario de tierra ribereña puede hacer un uso racional, es decir, un uso consistente con el goce, por terceros, de

iguales derechos, de las aguas que fluyen por o sobre su terreno. Este derecho de uso, sin embargo, aun bajo los términos de esta ley, no está protegido por el derecho constitucional contra una ley subsiguiente que pueda tener el efecto de destruir la inversión del propietario. En todo caso, no obstante, el derecho para desarrollar fuerzas hidráulicas está sujeto a los términos de una concesión que limita la cantidad y manera de uso y que sujeta al concesionario a todos los reglamentos vigentes al tiempo de la concesión o que en el futuro se dicten.

Aquí también, cualquier empresario que proyecte una inversión para el desarrollo de fuerzas hidráulicas se encuentra con la incertidumbre en cuanto a la posesión y en cuanto a las cargas a que está o puede estar sujeta su inversión.

COLOMBIA

En Colombia, como en Chile, la propiedad de las aguas de las corrientes se considera generalmente como del Estado, para usos públicos. Los derechos al uso de aguas públicas para desarrollo de fuerza y para otros usos privados, se obtienen, en virtud de solicitud, por concesión del gobierno y el uso de tales privilegios de fuerzas hidráulicas están sujetos a cambios en las leyes que les son aplicables. Los derechos de propietarios ribereños, conocidos en los Derechos Comunes Inglés y Americano, se reconocen en primer lugar, pero con frecuencia su uso está sujeto a leyes restrictivas y a reglamentaciones actuales o futuras que indebidamente aumentan las cargas sobre la inversión o empresa.

CUBA Y PUERTO RICO

En estos países los ríos y sus lechos naturales son parte del dominio público, y el uso de sus aguas debe obtenerse por los particulares por medio de concesión administrativa, al menos que se hayan adquirido derechos por una prescripción de 20 años. Los propietarios ribereños se consideran sin derecho excepto aquellos que hayan sido adquiridos bajo concesiones legalmente otorgadas, o por prescripción. Al otorgar concesiones se observan preferencias: primera, para la provisión de aguas para las ciudades; segunda, para la provisión de aguas para ferrocarriles; tercera, para irrigación; cuarta, para canales navegables; quinta, para molinos, fábricas, etc.; sexta, para estanques de pesca o criaderos de peces. En el ejercicio del derecho de expropiación por utilidad pública, se provee indemnización solamente para un uso que tenga tal precedencia legal. Las leyes de Cuba y de

Puerto Rico, con respecto a derechos de agua, parecen a primera vista más protectoras, para el empresario, que las de los otros países de que aquí tratamos. Las leyes sobre derechos de aguas han sido codificadas, y ofrecen una razonable seguridad en cuanto a los términos sobre los cuales el empresario puede obtener una concesión y ponerla en ejecución.

URUGUAY

En Uruguay, la regla general establecida es que las aguas de corrientes navegables son de propiedad nacional de uso público, y el uso de las aguas de esas corrientes, para fuerza motriz requiere especial autorización del gobierno. En el caso de corrientes no navegables, el propietario ribereño tiene los derechos que son usualmente reconocidos bajo las leyes Inglesa y Americana. La reserva que hace el Gobierno, del derecho de extender permisos y de fijar los términos para tales permisos, no es suficiente para dar al empresario garantía alentándolo para hacer inversiones en el desarrollo de fuerzas hidráulicas, pues los términos de los permisos están sujetos a cambios y no se concede protección bastante contra cambios en las condiciones de la concesión.¹⁹

VENEZUELA

En Venezuela, no obstante que los ríos son considerados como parte del dominio público, el derecho de los ribereños para utilizar sus cauces y aguas, para objetos puramente industriales, está previsto expresamente. Los derechos públicos de navegación se consideran privilegiados, como en los Estados Unidos. Por la nueva constitución de 1914, sin embargo, se reserva al Gobierno Federal el control sobre las aguas de las corrientes navegables; y los aprovechamientos de fuerzas hidráulicas en ellas, solamente puede hacerse con el consentimiento y aprobación del Congreso Nacional. Tal situación deja a las empresas de fuerzas hidráulicas sujetas a cambios de legislación por el Congreso Nacional o por las autoridades en quienes el Congreso delegue esas facultades.

BRASIL

La ley de fuerzas de agua en el Brasil es Portuguesa más bien que Española. La ley general de derechos de agua sigue la de la Argentina. El gobierno está expresamente autorizado para apoyar el aprovechamiento de fuerza hidro-eléctrica para su

¹⁹El gobierno de acuerdo con una ley de 1912, tiene monopolio casi completo para suministrar á terceros energia electrica para luz, fuerza y tracción.

transformación en energía eléctrica, cuando se aplica a servicios "federales". Cualquiera exceso de fuerza procedente de tales instalaciones puede ser concedido a empresas privadas para uso en industrias privadas. Esto corresponde a la práctica en los Estados Unidos de construir diques de navegación, por el Gobierno, llevándolos a tal altura y edificados de tal manera que puedan producir fuerza hidráulica en exceso de la que requieren los fines de la navegación; fuerza que se da en arrendamiento a empresas privadas. En el Brasil, no obstante, parece que el servicio "federal" no se limita a la promoción federal de la navegación, pero puede extenderse al control federal y al uso de las fuerzas hidráulicas como tales, más bien que como incidentales a las mejoras de la navegación.

MÉJICO

Las leyes que tratan de aguas y de derechos sobre aguas en Méjico se resumen de una manera detallada en el Apéndice. Las corrientes de agua navegables y las limítrofes, se clasifican como vías públicas, y desde luego como "vías de comunicación" ordinarias, que están bajo el control y reglamentación del Poder Ejecutivo Federal. Las concesiones para la utilización de aguas sometidas á esa jurisdicción federal, ya sea para irrigación ó para fuerza motriz, se otorgan por el Poder Ejecutivo Federal bajo condiciones con respecto á construcciones y uso de agua, incluyendo las tarifas—que están todas á discreción del Ejecutivo. Privilegios especiales por períodos de cinco años para fomentar empresas pueden otorgarse, y es posible renovarlos si el Ejecutivo lo tiene a bien y bajo condiciones limitadas, impuestas á voluntad de éste. El uso de las aguas de semejantes corrientes está supeditado por el derecho de uso privilegiado que tiene la navegación. Aun bajo un gobierno estable, y con la conclusión de todas las revoluciones, la incertidumbre para una inversión en el aprovechamiento de la fuerza hidráulica que presentan las peculiaridades de las leyes Mejicanas, constituirían, al comienzo mismo, una imposibilidad. Los términos de la concesión, mediante los cuales se obtienen los derechos al aprovechamiento por una empresa particular, se han dejado demasiado al capricho de las autoridades investidas con la facultad de otorgarlas. Además, esta costumbre hace al otorgamiento de la concesión, sus condiciones originales y las oportunidades de renovación, demasiado espuestos a cambios y control arbitrarios. La falta de seguridad con que tropiezan las empresas hidráulicas particulares en Méjico ha mantenido fuera del país el capital necesario para el desarrollo de esas empresas.

CONCLUSIÓN

Es evidente que la conservación de las riquezas hidráulicas, mediante el aprovechamiento de la fuerza hidráulica desperdiciada en los países Pan-Americanos, incluyendo á los Estados Unidos, se puede llevar á cabo solamente adoptando una política legislativa que aliente la inversión de capitales particulares en tales empresas. El defecto común a todos los actuales sistemas legislativos, en esta materia, consiste en que al futuro empresario, que solicite un privilegio, una concesión o un permiso, se le mira como a un solicitante de un derecho público para su provecho particular. Predomina la teoría de que, por ser las aguas riquezas naturales, son justamente por ello, una riqueza puramente pública, y que no deben, de acuerdo con su naturaleza y con la ley, desarrollarse de otra manera que bajo la directa supervigilancia de las autoridades públicas y para el exclusivo y directo beneficio del público en general. Pero las fuerzas hidráulicas son locales en su propia naturaleza. La aseveración de un derecho de beneficio, por medio de una participación directa del público en general en los productos derivados del aprovechamiento de las fuerzas de agua, es una aseveración de que las fuerzas de agua naturales han de producir solamente rentas para el tesoro público. Tal manera de mirar las riquezas que las fuerzas de agua encierran lleva hacia una legislación que por medio de la ley imponga las mayores cargas posibles y aun imposibles sobre las empresas privadas. La experiencia ha demostrado que el aprovechamiento de las fuerzas de agua que se desperdician hoy, no puede realizarse por medio de su desarrollo por las autoridades públicas, sino solamente por medio del capital de empresas privadas. Tales empresas, sin embargo, con justicia piden que se les den garantías para su inversión, que las protejan razonablemente contra la confiscación y pérdida de su inversión y contra la probabilidad de no recibir utilidades equitativas de tal inversión.

Hay millones de pesos de capital en las manos de financieros Americanos, listos para ser invertidos en desarrollo de fuerzas hidráulicas, no solo en los Estados Unidos sino en todas las repúblicas Pan-Americanas, pero que se cohiben de entrar en tales inversiones por razón de los obstáculos financieros que en esos varios países se presentan con motivo de una casi total ausencia de sistema legislativo que permita que tales inversiones se efectuen con una razonable seguridad.

ROME G. BROWN.

MINNEAPOLIS, MINN.

APPENDIX

SUMMARY OF LAWS OF WATERS IN ARGENTINA, CHILE, COLOMBIA, CUBA AND PORTO RICO, URUGUAY, VENEZUELA, BRAZIL AND MEXICO.*

ARGENTINA

The Argentine is a federal republic, the Provinces corresponding closely to the States of our own Union. It has been held by the Supreme Court that the ownership of navigable rivers, as well as of non-navigable waters, is in the separate Provinces and not in the Nation. The power of the Nation thereover is limited to the regulation of commerce (*i. e.*; principally, navigation) and other constitutional congressional attributes (*Port of Rosario vs. Province of Santa Fe*, Vol. 111, Reports of the Supreme Court of the Nation, pp. 179, 197). In that case it was stated that there is no difference between the fundamental law of the United States and of Argentina, in so far as the ownership of the bed of navigable rivers is concerned. In the federal territories, ownership of the rivers is of course in the Nation.

More so than our own country, Argentina is blessed with uniformity of substantive law; Congress has power to enact general Codes. The most important fundamental code is the Civil Code which went into effect in 1871. Its provisions are very different from those of the Roman Law and of prior codes which declared that non-navigable rivers belong to the riparian owners. This code on the contrary is far reaching to the effect that all rivers and waters flowing in natural channels, non-navigable as well as navigable, are public property of the State (Art. 2340). Such private riparian ownership as may have existed prior to the Code therefore ceased. Being in the class of public property, riparian owners cannot have the exclusive use of rivers nor any absolute right of property over them (Matter of the river *Los Valles*, 16-Reports of the National Supreme Court, p. 258). The use and enjoyment of watercourses, like the use and enjoyment of other public property, is open to private individuals, subject to the provisions of the Civil Code and to the general ordinances on the subject (Art. 2341, Civil Code). "In view of Arts. 2340 (3) and 2341, there can be no doubt" says Machado† "that it is not necessary to be a riparian to use the waters . . . I do not believe that any riparian can claim any special privilege over the waters which are of public use, as such a claim would imply a monopoly of the very water which has been declared to be of public use; its distribution should not be in the hands of private parties". A regulation of the use of waters, made by the administrative authorities of a municipality pursuant to powers vested in them, which deprives each riparian owner in part of the increased profits he could derive from exclusive use, is not unconstitutional; does not injure a vested (*perfecto*) right (Matter of the river *Los Valles*, *supra*). Furthermore, being of the public domain, waters flowing in natural channels cannot be alienated in whole or in part; their use is subordinated to the rules prescribed by the local administration or police. These rules are subject

* Prepared for this paper by Phanor J. Eder, Esq., of the New York Bar.

† Vol. 7, p. 48, Commentary on Art. 2642.

to alteration and can be repealed or modified, according to the public needs in the judgment of the administration; hence, the enjoyment thereof is precarious and cannot constitute real rights in favor of private individuals (30 S. C. N., p. 443).

Complete ownership of waters is, however, recognized in the landowner, as to rain waters (art. 2637) and waters that rise and die out within the confines of a single estate (art. 2350) and also as to springs, notwithstanding the waters therefrom may naturally flow onto lower land of other proprietors, but if they are the principal feeders of rivers or are needed for town uses, they are subject to condemnation (art. 2637).

Navigation being the prime public use of rivers, any use which interferes in any way whatsoever with navigation or free passage for any kind of water transportation is prohibited (Art. 2641). In furtherance of the public right of navigation and other public rights to rivers, the Argentine Code places a limitation on the right of the adjacent landowners to use their lands: A strip of thirty-five meters¹ in width must be left clear on the banks for a public road, and the landowners cannot build thereon or otherwise occupy it nor even repair ancient structures thereon (Art. 2639). This easement had its origin in customs established during the colonial era, but the customary width of the strip was enlarged by the Code (*Rosario vs. Empresa Comos*, 111 S. C. N., p. 197, 215). It would seem, however, that the owners are constitutionally entitled to compensation for being deprived of this marginal strip, notwithstanding a contrary implication in the Code. (*Rosario vs. Ferrocarril*, C. C. A. Supreme Court, 1909.)

The Railroad Law (art. 6, subd. 6), also, provides that railway bridges shall not be constructed so as to hinder or impede navigation. It is interesting to note that in the case of the arroyo Ramallo (*Coudanne vs. B. A. & Rosario RR.*, Vol. 78, Supreme National Court, p. 100) in the decision as to what constitutes a navigable river and on the subject of rights by reason of rivers belonging to the public domain, there were copious references to the law of the United States and the decisions of our own Supreme Court. It was there stated that "by virtue of its constitutional power over navigation, the National Congress can authorize works which constitute a limitation on, or alter the conditions of, navigability of a river and even suppress navigation altogether by permitting the erection of bridges: The States have not such power, nor, of course, private individuals". The dissenting opinion was to the effect that while Congress could regulate, it could not authorize any hindrance to navigation, and that the United States precedents were inapplicable because of the Argentine constitutional provision that the navigation of the inland rivers of the Nation shall be free to all flags.

The riparian owners are prohibited by the Code (art. 2642), without a *special concession* from the authorities, from changing the natural course of waterways, exploiting the bed, or taking the waters for use on their lands. The license or concession, in the case of navigable rivers, must be given by the Nation; if the river is not navigable, then by the Province,² and may be granted to others than riparian owners. But even the license

¹May be reduced to not less than 15 meters in cities and towns (Art. 2640).

²Compare U. S. Statutes, Act of March 3, 1899, 30 St. L., 1121.

of the Nation, Province or Municipality will not authorize a riparian owner, without the consent of the other riparian owners, to dam up the waters so that their level is altered beyond the confines of his land or to deprive his neighbors of the waters (art. 2645).

The consent of the riparian owners is not necessary in order merely to diminish the volume of water, unless the waters that flow on would not suffice for the uses to which they were previously put. The right of other riparian owners appears limited by said art. 2645 to not being *deprived* of the waters: but Dr. Machado³ is of opinion that any alteration in the force of the current, when it is employed for power in industrial establishments or factories, is likewise under the ban of the law.

In furtherance of the purpose to give the widest possible distribution of waters, the Argentine law has greatly enlarged the compulsory servitude of *aqueduct*, given by operation of law. This servitude is granted not solely for irrigation, but for industrial establishments; Water can, therefore, be brought across land of others for one's private power plants, mills, mines and factories,⁴ as well as, of course, for public uses. No distinction is made as to whether the waters are natural or artificially collected or as to the mode by which the beneficiary acquires the right to take the waters. It is applicable as well to waters of public use, such as those of navigable rivers, and of non-navigable watercourses. The right to *take* the waters is different: That right is to be granted by the authorities, when the watercourse is under their supervision or by the owner of privately owned waters. What has to be proven in order to enforce the servitude is, 1st, The right to dispose of the waters for which passage is claimed and, 2nd, That they are necessary for the cultivation of plantations, etc., or for industrial enterprises or towns.⁵ Of course, compensation has to be paid to the owner of the land across which the aqueduct is built.⁶ When this servitude is given by operation of the law "it is invested with all the characteristics arising out of laws of public policy and it is not subject to prescription or release and any contract that might be made to impair it would be void".⁷

Of special laws that have been passed, one of the most important is No. 6546 of September 28, 1909, which authorizes irrigation projects in a great many provinces and in a great number of rivers. The Executive Power is authorized to contract for the necessary works for the utilization of the waters, and also for the development of power; The power plants may be operated directly by the Government or granted under lease for reasonable terms. Full rights of condemnation are given. Another important law is the Rural Code for the National Territories. The distribution of waters is in charge of an Agricultural Inspector in each territory, who grants concessions for the use of waters (art. 215). Art. 220 *seq.* provide for the annual election of a "Judge of Waters" by majority vote of the persons benefited by the local irrigation works, who is to decide *ex acquo et bono* all questions arising amongst themselves, with an appeal to the Inspector General.

³Vol. 7, p. 46.

⁴Art. 3082 C. C.: 7 Machado 578 *seq.*

⁵Art. 3083 C. C.: 7 Machado 582.

⁶Art. 3082, 3085.

⁷7 Machado, 758.

CHILE

Making allowance for the fact that Chile is not a federal but a centralized republic, the provisions of the Chilean Civil Code on the fundamental bases of the law of waters are substantially the same as those of the Argentine Civil Code heretofore cited. In fact, many of the provisions of the Argentine Code cited were taken directly from the Chilean Code, which was enacted a great many years earlier (1855). The arrangement of articles and the phraseology differ. For instance; article 595 Chilean Code says that the rivers and all waters flowing in natural channels are "national property of *public use*", the Argentine Code calling them "*public property*".

Running waters in artificial channels, on the other hand, cease to be common to the public, and belong to the person who has by his labor shut them in. The law protects the private ownership of such waters and punishes whosoever without right uses them.^a

The Civil Code evidently contemplated the enactment of special laws on waters to amplify its own scanty provisions. Few such, however, have been passed, says Vera, one of the latest general commentators on the Code.^b He calls attention to some; from his work we extract as follows:

Law of Sept. 12, 1887, on *Municipalities* (art. 24) makes it the duty of the municipalities to attend to the proper administration of waters for drinking and other city needs. By article 102 *id.*, rivers and other water courses of common use are subject to the action of the Municipalities in regard to the laying down of rules for the good use of the waters and to determine generally the manner and securities in which intakes and ditches and canals therefrom are to be built.

The permits to take water are granted by the Chief of the Department, "without any greater rights being granted by such permits than those granted by the general law, taking into account the priority and preferences of permits amongst the various parties in interest".

The use of public waters is acquired by administrative concession, granted without prejudice to rights of third parties, and the concession or administrative permit becomes extinguished by non-user.

Canals cannot be drawn from rivers for any domestic or industrial purpose, except in conformity with the laws or ordinances.

The action of the State on waters of public use is exercised either by the President of the Republic or by his local representatives, the *Intendentes* or Governors, or by the Municipalities.

Ordinances provide for the appointment of inspectors of waters (often erroneously called "Judges" of Waters) to regulate the use of waters in common by a number of land-owners, who have contributed to the building of private canals.

In general, questions as to the distribution and enjoyment of waters of rivers, as these are national property, do not fall within the jurisdiction of the Courts of Justice, but are purely administrative.

The concessionaire is obligated to submit to the local or general ordinances. The most complete ordinance on the subject is that of January 3rd, 1872."

^aVera: Commentaries on Civil Code, vol. 3, page 20 *seq.*

^bVol. 3, page 20. Not a work of high authority, but a useful compendium.

Ordinances for the partition of the waters of a great number of rivers have been frequently passed and concessions for the use of waters granted to private individuals (see Ballesteros' *Indice General de las Leyes*, Vol. I, p. 17).

Since the publication of Vera's commentaries, two laws of especial importance have been passed.

Law No. 1665 of 1904¹⁰ provides that the power to grant concessions to public utility electrical enterprises to occupy national or fiscal (*i. e.*, owned by the Nation on the same basis as property of private owners) property, is vested in the President. Concessions for laying transmission lines underground can be granted for 20 years; overhead, for 10 years.

Law No. 2068 (promulgated December 31, 1907: *Boletin de las Leyes*, Vol. 77—p. 1572) covers the subject of the *Utilisation of Running Waters for Power*. Under its provisions, the owner can employ for power the waters which flow through his land, either in natural or artificial channels. He must not, however, disturb the enjoyment by the owner of the waters. A like right may be exercised by the owners of lands which bound on natural or artificial channels (Art. 1.). The use of the waters may be either (a) by constructing a separate channel, under certain reasonable restrictions and imposing certain obligations.¹¹ (Arts. 2 and 3), or (b) by installations direct on the principal channel (Art. 4). In the case of privately owned waters, that is, those flowing in artificial channels, the use is conditioned upon the payment to the owner of a fixed annual rental, not less than 4 pesos nor more than 8 pesos per horse-power (art. 5). In case an agreement cannot be reached with the owner of the waters, recourse can be had to the Court to ascertain the fair amount of the annual payment (art. 8). The rights acquired under the law can be assigned (art. 10).

This law obviously permits of a very extended development of water power, either for public or private enterprises. Under the Chilean system of constitutional law, the law cannot be invalidated by the courts as unconstitutional.

A great number of concessions have been granted under this law of 1907 (see the *Boletin de las Leyes y Decretos*, 1908 to date). The usual form specifies the quantity of water allowed, the exact place where the water is to be taken and where returned, provides that all detailed plans and specifications must be submitted for approval within one year and generally contains a provision that the concessionaires shall be subject to the provisions of general regulations now in force or that may hereafter be enacted.

COLOMBIA

The Colombian Civil Code was, in so far as the law of waters and servitudes is concerned, copied verbatim from the Chilean.¹²

The following extracts or paraphrases from the leading Colombian Commentator on the Civil Code, Dr. Fernando Velez,¹³ will therefore serve

¹⁰See also the Decree of December 14th, same year.

¹¹Modifying the rights and obligations of the owner of the servient tenement, in the case of servitude of aqueduct, by arts. 863 and 872 of the Civil Code.

¹²So also was the Ecuadorian: no special research into the law of Ecuador has however been made.

¹³Commentaries, Vol. 3, p. 36 *seq.*

not only as an exposition of the Colombian law, but also to throw light on the Chilean Code.

It is the general rule in Colombia that waters are the *property* of the State, for public use.

The use of waters is regulated by the Civil Code, by the Mining Code and by the Departmental Ordinances.

The Mining Code (Art. 204 seq.) gives miners certain preferential rights to the use of public waters; but they cannot deprive the owners of the land of the water necessary for domestic and stock purposes, and for irrigation of established plantation, and installed machinery. Nor can they interfere with vested servitudes of aqueduct. (Art. 208 M. C.)

The Colombian law distinguishes clearly between the *use* of waters, and the ownership of the waters.

As to ownership, the general rule is that they belong to the State (Nation), for public use. To this there are the following exceptions:

1st.—Art. 677, Civil Code, where the waters rise and die within the limits of one estate. The phraseology of the article gives rise to many questions, many still not satisfactorily settled. It is interpreted to mean that it dies within one estate, if one of the boundaries of the estate be a river into which the watercourse disembogues within the estate. If the estate be divided up, the exclusive ownership ceases, but rights heretofore granted by the single owner are preserved. On the other hand, if a single owner acquires several parcels within the totality of which a watercourse rises and dies, he becomes the exclusive owner of the water.

2nd.—Waters flowing by an artificial channel, lawfully constructed at private expense, are the exclusive property of the constructor (Art. 895, Civil Code).

3rd.—Wells may be privately owned, although digging them may deprive the owner of another well of his water (Art. 1002, Civil Code).

By Article 678, private individuals can acquire no rights in rivers and lakes other than the use and enjoyment: The State's prior right can never be cut off, by alienation or prescription; and the use and enjoyment are subject to the rules of the Civil Code and other provisions of Law.

The Legislature is always at liberty to vary the permitted use of waters and regulate the use (Velez, p. 37).

Article 683: Canals cannot be drawn from rivers for any individual or domestic purpose, except according to the respective laws.

This is because they are of public use, and the use belongs to the riparian owners (arts. 892 to 894). But, provided riparian rights be not violated, the authorities can grant permission.

Article 690: Fishing is freely permitted in rivers and lakes of public use.

The Colombian Law, contrary to the Chilean, contains no provision (like Article 596, Chilean Civil Code) that lakes navigable by boats of more than 100 tons are of public use.

By Article 892, Civil Code: The owner of land can use water flowing through or by it, for domestic purposes for irrigation of the same land, for watering stock, and mills and machinery; but he must return the surplus to the accustomed channel.

This right is irrespective of whether the waters are navigable or not, and whether of public domain or not. (This is contrary to the French Code, Art. 644 whereof does not give the use of navigable waters.)

The use, however, is limited:

(A) *in the case of waters flowing through an estate* (art. 893) by

(1) The prescriptive or other vested rights of lower owners;

(2) Laws or ordinances for the benefit of navigation or flotation, or regulating the distribution of the waters among riparian owners;

(3) The domestic needs of the inhabitants of a nearby town; but a part of the water must be left to the estate. If amicable adjustment cannot be had, the town can condemn, compensating the owner of the estate for all direct damages (see also Leg. Dec. No. 616 of April 9, 1902).

(B) Same limitations apply *in the case of waters flowing between two estates*: Use, in case of dispute, being regulated, temporarily by the administrative, and, permanently, by the judicial, authorities (art. 894: Velez, p. 362).

The riparian owner can transfer his rights to one not a riparian, provided the waters be returned to the natural channel (Velez, p. 363).

No special laws for the development of hydraulic power have been passed, and only a few special concessions have heretofore been granted, almost entirely for electric light and power plants for town purposes. These have been unusually liberal exempting from taxes and custom duties and in terms safeguard the investor.

As Colombia is a leading mining country a few of the more important provisions of the Code of Mines on waters are next given:

Some provisions from the Colombia Code of Mines:

Art. 204: He who gives the notice spoken of in Articles 8, 79, 346 and 367 acquires the right to take the water necessary for working a mine, under the terms detailed in the present chapter.

Art. 208: In the user of the rights spoken of in the foregoing articles the owners of mines can never deprive the owners of the land of the water necessary for their family, their livestock, and any sort of machinery whatsoever that they may have set up or started to set up, and for the irrigation of their planted lands.

Neither can such user impede the free enjoyment of the servitudes of aqueduct that are established over the land where the mine is situated, in favor of a town or settlement or an estate or machinery of a third party.

Art. 209: If there arise a dispute between mine-owners by reason of some claiming that there are surplus waters in any reservoir and others affirming the contrary, the doubt shall be resolved by means of experts named (one each) by the interested parties and the third by the judge.

Art. 212: Disputes arising over waters between miners and the owners of the lands or those enjoying any servitude of aqueduct, shall be adjusted in the way detailed in Article 209.

Art. 217: In case the proprietor of a mine changes the waters placed in his establishment for new waters, taken from a different source, the first waters thereby *ipso facto* are restored to their original character of common or public waters and are subject thereafter to the provisions of this chapter.

Art. 181: Every mine enjoys the servitude of aqueduct over all tenements that may be necessary, to conduct to the place of the works the water to serve the mine.¹⁴

¹⁴Mining Laws of Colombia, translated by Eder, pp. 75, 78, and 69.

CUBA AND PORTO RICO

In Cuba and Porto Rico, the modern Spanish Civil Code was in force at the time of the separation of these Colonies from the Mother Country in 1898, and has been continued in force.

The provisions of the Civil Code, here in point, taken from the official translation contained in the Compilation of the Revised Statutes and Codes of Porto Rico (Washington, 1911), are as follows:

Provisions of the Code of Cuba and Porto Rico:

Chapter I. The Ownership of Waters.

Sec. 414. To the public domain belong:

1. Rivers and their natural beds.
2. Continuous or intermittent waters from sources or brooks running in their natural beds, and the beds themselves.
3. Waters rising continuously or intermittently in lands within the same public domain.
4. Lakes and marshes formed by nature on public lands, and also their beds.
5. Rain water running through ravines or sandy beaches, the beds of which may also belong to the public domain.
6. Subterranean waters existing on public lands.
7. Waters found within the zone of operation of public works, even when they are executed by a grantee.
8. Waters flowing continuously or intermittently from tenements belonging to private parties, to the People of the United States, to The People of Porto Rico, or to the municipalities thereof from the moment they leave such tenements.
9. The waste waters of fountains, sewers and public institutions.

Sec. 415. To private dominion belong:

1. Waters, either continuous or intermittent, rising on private tenements, as far as they run through the same.
2. Lakes and marshes, and their beds, when formed by nature on the said tenements.
3. Subterranean waters found on the same.
4. Rain water falling on private tenements, as long as they remain within the boundaries of the same.
5. The beds of flowing waters, continuous or intermittent, formed by rain water, and those of brooks crossing tenements which do not belong to the public domain.

In every drain or aqueduct, the water, the bed, the sloping bank, and the sideways are considered as an integral part of the tenement or building for which the waters are intended. The owners of tenements through which, or along the boundaries of which the aqueduct passes, cannot allege ownership over the same nor any right to profit by its beds or sideways, unless they base their claims on title deeds, specifying the right or the ownership claimed by them.

Chapter II. The Use of Public Waters.

Sec. 416. The use of public waters is acquired:

1. By administrative concession.
2. By prescription after twenty years.

The limits of the rights and obligations of these uses shall be those shown, in the first case, by the terms of the concession; and in the second case, by the manner in which the waters have been used.

Sec. 417. Every concession of the use of waters is understood to be without injury to third persons.

Sec. 418. The right to make use of public waters is extinguished by the lapse of the concession and by non-usage during twenty years.

Chapter III. The Use of Waters of Private Ownership.

Sec. 419. The owner of a tenement in which a spring or brook rises, be it continuous or intermittent, may use its waters as far as they run through the said tenement; but after the said water leaves the tenement it shall become public and its use is governed by the special Law of Waters.

Sec. 420. Private ownership of the beds of rain waters does not give a right to make works and constructions which may divert the course of such waters to the injury of a third person, nor those, the destruction of which by the force of floods, may cause such injury.

Sec. 421. No one may enter private property in search of waters or make use of them without permission from the owners thereof.

Sec. 422. The dominion which the owner of a tenement has over the waters arising thereon does not injure the rights which the owner of a lower tenement may have legally acquired to the use thereof.

Sec. 423. Every owner of a tenement has a right to construct within his property receptacles for rain water, provided he does no damage thereby to the public or to a third person.

Chapter IV. Subterranean Waters.

Sec. 424. Only the owner of a tenement or another person with his permission, may search for subterranean waters thereon.

The search for subterranean waters in lands of public domain may be made only with the permission of the administrative authorities.

Sec. 425. Artesian waters discovered in accordance with the special Law of Waters belong to the person discovering them.

Sec. 426. When the owner of artesian waters abandons the same to their natural course, they shall become public domain.

Chapter V. General Provisions.

Sec. 427. The owner of a tenement on which there are defensive works to check waters, or on which, by the variation of their course, it may be necessary to reconstruct them anew, is bound, at his option, either to make the necessary repairs or constructions, or to permit that, without damage to him, the owners of the tenements who suffer or are clearly exposed to suffer damages, should make such works.

Sec. 428. The provisions of the preceding section apply to the cases in which it may be necessary to clear a tenement from the material, the accumulation or fall of which may obstruct the course of water, to the injury or danger of a third person.

Sec. 429. All the owners who participate in the benefits arising from the works to which the preceding sections refer shall be bound to contribute to the expenses of their several interests. Those who by their own fault may have caused the damages, shall be liable for such expenses.

Sec. 430. The ownership and use of waters, belonging to corporations or private persons are subject to the Law of Eminent Domain for reasons of public utility.

Sec. 431. The provisions of this title shall not cause injury to rights previously acquired, nor to the private dominion of the owners of waters, drains, fountains or springs by virtue of which they use, sell, or barter them as private property.

Sec. 432. Anything not expressly determined by the provisions of this chapter shall be governed by the special Law of Waters.

"Law of Waters" of Cuba and Porto Rico:

SECTION I.—CONCESSION OF USES.

(2533) Art. 147. Authority is necessary for the use of public waters especially destined to enterprises of public or private interest, excepting in the cases mentioned in articles six, one hundred and seventy-four, one hundred and seventy-six, one hundred and seventy-seven, and one hundred and eighty-four of this law.

(2534) Art. 148. Any person who may have a declared right to the public waters of a river or creek, and who shall have not made any use thereof or only in part, shall retain his full rights for a period of twenty years from the date of the promulgation of the law of August third, eighteen hundred and sixty-six.

Upon the expiration of this period, such rights shall lapse as to that part of the water not used, without prejudice to the general rule provided in the following article.

The provisions of articles five, six, seven, eleven, and fourteen of this law are applicable in such case to the subsequent use of the waters.

In any event, when a public investigation is made with respect to any grant of waters, the holder of such rights shall be obliged to establish them in the manner and at the time prescribed by the regulations. If condemnation should lie, it shall take place after the proper compensation.

(2535) Art. 149. He who shall have enjoyed the use of public waters for a period of twenty years without opposition on the part of the authorities or a third person, shall continue to enjoy it even though he cannot prove that he obtained the proper authority.

(2536) Art. 150. Every grant for the use of public waters shall be understood to be made without prejudice to third persons, and reserving individual rights; as to the duration of these concessions, it shall be determined in each case according to the provisions of this law.

(2537) Art. 151. A grant for the use of public waters shall be understood to include that of the lands of public ownership necessary for the works of dams and canals and ditches.

With regard to lands belonging to the State, a Province, towns, or private individuals, a compulsory servitude shall be imposed according to the cases, without prejudice to the provisions of article seventy-eight; or they shall be condemned for a cause of public utility, after the proper proceedings and other formalities required.

(2538) Art. 152. In all concessions for the use of public waters the nature of such use, the amount of cubic meters of water per second granted, and, if the concession be for irrigating purposes, the area, in hectares, of the land to be irrigated shall be stated.

If in uses granted prior to this law the volume of water should not have been fixed, only that amount necessary for the purpose of such uses shall be understood to have been granted. This amount shall be determined by the Colonial Secretary, after hearing the persons interested and he may require them to install the proper water meters.

(2539) Art. 153. (*As amended by act of Mar. 9, 1905, p. 187.*) The waters granted for a given utilization shall never be applied to a different purpose without the proceedings corresponding to the granting of a new franchise; *Provided*, that the waters granted for irrigating purposes may also be used for the industrial preparation of the products of the land to be irrigated: *Provided*, That the original volume of water granted shall not be altered and the waters granted to produce power which subsequently must be returned to the stream, may also be used for any other industrial purposes which will not render them unfit to be returned to the stream.

(2546) Art. 160. The following order of preference shall be observed in grants for special uses of public waters:

1. Water supply of towns.
2. Water supply of railroads.
3. Irrigation.
4. Navigation canals.
5. Mills and other factories, ferryboats, and floating bridges.
6. Ponds for fish pounds or hatcheries.

Preference shall be given in each class to the enterprises of most importance and utility, and in equality of circumstances, to the persons who first requested the use.

In every case the common uses referred to in sections 1, 2 and 3 of the foregoing chapter shall be first respected.

(2547) Art. 161. Every special use of public waters is subject to forcible expropriation for a cause of public utility, after proper indemnity in favor of another use which precedes it, according to the order established in the foregoing article, but not in favor of any use following it, except by virtue of a special law.

(2548) Art. 162. In urgent cases of fire, flood or any other public calamity, the authority or its subordinates may at once, without proceedings or previous indemnity, but in accordance with the ordinances and regulations, dispose of the water necessary to control or avoid the damage. If the waters were public, indemnity shall not lie; but if they were applied to industrial or agricultural purposes, and were of private ownership, and their diversion should have caused any estimable damage, the owner thereof shall be compensated immediately.

SECTION 6. USE OF PUBLIC WATERS FOR FERRYBOATS, BRIDGES AND INDUSTRIAL ESTABLISHMENTS.

* * * * *

(2601) Art. 215. In rivers which are neither navigable nor capable of floating logs or rafts the owner of both margins may without restriction establish any apparatus, machinery, or industry which will not cause a diversion of the waters from their natural course. If he owns one margin only, he cannot go beyond the centre of the channel. In either case he must construct his establishment in such manner as not to interfere with the free course of the waters, nor damage adjoining estates, irrigation works, or established industries, including the fishing industry.

(2607) Art. 221. Persons who make use of the water as motive power for machinery or industrial establishments located within a river or on the banks or margin thereof, shall be relieved from the payment of any taxes during the first ten years.

The above special and very detailed Law of Waters which was in force in 1898, and which has continued in force (subject to the limitation hereafter to be mentioned in the case of Porto Rico) was the Spanish Law of Waters of 1879, extended to Porto Rico in 1886 and promulgated for Cuba by Royal Decree of January 9, 1891.¹⁸

A translation of this law is to be found in the Compilation of Revised Statutes and Codes of Porto Rico. Attention is called especially to Arts. 147 *seq.*, 160, 161, 215 to 221, 226 *seq.* It was expressly continued in force in Porto Rico with some slight modifications, by an act of 1903. But it seems that the Law is in many parts contrary to the organic law of the Territory and other laws of the United States applicable to it. It was so considered in the case of

*Arpin vs. Porto Rico Light and Power Company.*¹⁹

This is the most important case that seems to have arisen in Porto Rico, on the subject, not merely because of the questions of law involved, but also because it dealt with the right to generate electric power from *El Salto* or *Comerio* waterfall on La Plata river, a navigable stream 17 miles from San Juan, the only considerable one in Porto Rico, adequate, it was alleged, to furnish not only heat, light and power for the city of San Juan, but also to operate trolley lines in the city and in a large section of the island. There are a few smaller falls in other parts of the island, but not

¹⁸Betancourt's edition of the Civil Code of Cuba, note to art. 425: Compilation of Revised Statutes and Codes of Porto Rico, p. 458.

¹⁹2 Porto Rico Federal Reports (1906), p. 314.

of sufficient volume to attract much attention. The case arose out of a dispute between the complainant who was the riparian owner, and the grantee of a franchise from the Executive Council of the Island to use the waterfall. The Court held that sec. 218 of the Law of Waters is not in force to the extent of conferring exclusive privileges on riparian owners; and the power to grant franchises for the use of water is vested, under the Organic Law of Porto Rico, in the Executive Council, subject to approval by the Governor and to Congressional control. "It cannot be disputed," said the court, "that the people of the Island of Porto Rico are the owners of the river-bed of this non-navigable stream and of this fall." The riparian owner could have no rights except such as he might have duly acquired, to and by the use of the water, and the right of eminent domain could be extended to the appropriation, said the court, by a private corporation of the riparian rights of owners for the purpose of generating electricity to serve towns and cities.

The navigable waters of the areas of harbors, bays, inlets and rivers and the submerged lands underlying the same, are not however the property of the local government of Porto Rico, but are now the national property of the United States."

URUGUAY

The Uruguayan law contains some modifications of the fairly uniform fundamental principle heretofore set forth as to the ownership of running waters (Art. 478 (431)¹⁸ of the Civil Code provides:

"The following are national property of public use.

3.—The waters of rivers or *arroyos* navigable or floatable in all or part of their course. By navigable or floatable rivers or *arroyos* shall be understood those on which navigation or floating is possible either naturally or by artificial works.

4.—The banks of such rivers or *arroyos*, in so far as the use thereof is indispensable for navigation.

5.—Running waters, even of non-navigable rivers and *arroyos*, in respect to use for the prime necessities of life,¹⁹ if there be a public road giving access to them."

Title III of the Rural Code (1879) comprising arts. 343 to 634, constitutes a very complete statute on the law of waters, copied very largely from the Spanish Law of Waters of 1866, the predecessor of the Law of 1879 already mentioned in connection with Cuba and Porto Rico. It also reproduces the provisions of the Civil Code included in the section "Servitudes of Waters". The result is a number of repetitions and contradic-

¹⁸*Standard Dredging Co. vs. Gromer, Treasurer of Porto Rico*, 5 Porto Rico Federal Reports 142: *held*:—local government therefore, had no power to collect taxes on dredges and scows, belonging to a citizen of Delaware not domiciled in the territory, and used only temporarily within the territory to dredge navigable waters under contract with the United States.

¹⁸The first number follows the numeration of the 1914 official edition: the number in parenthesis is the old number.

¹⁹*I. e.*: drinking and watering stock. Guillot's Commentaries, Vol. 3, pp. 53, 54. This section is not understood to give the State any absolute proprietary right: The State simply exercises a right of protection to assure the common use. The riparian owner can use the waters for domestic needs, irrigation and industrial purposes in so far as such use does not prejudice the other riparian owner nor contravene legal regulations. Where he is the owner of both banks, he can use the waters in any way he sees fit provided he restore them to their customary channel. *Id.*

tions: There are a number of articles of the Civil Code identical with or analogous to articles of the Rural Code, and others not at all in harmony therewith.

The chief provision for the use of water for power is as follows:²⁰

"In rivers and arroyos which are not navigable or floatable, he who is owner of both banks can freely instal any artificial structure, machinery or industry. If he is owner of only one bank, he cannot pass beyond mid-stream. In either case, he must instal the plant without prejudice to the abutting estates or to irrigation ditches or to lower industrial establishments or to the public road, if any, for the use of the water as provided in article 346 subdivision 3."²¹

This differs from the Spanish, Cuban and Porto Rican Law of 1879 (art. 215) in omitting the requirement that there shall be no interference "with the natural course of the waters." Under article 603, consent of the owners or ownership of the lands is not required as in art. 218 of the Spanish Law, but specifications of the proposed works must be drawn up, and notice published and served. Article 606 omits the condition imposed in art. 220 of the Spanish Law.

Another difference is the insertion in the Uruguayan law of an article (art. 604) authorizing, with the consent of a community of irrigators, the use, for private power plants, of a canal or ditch belonging to them: and in case of their refusal to consent, the same may be had by authority of the Municipality, after due hearings, provided no damage is done to irrigation or other industries and provided the community of irrigators does not desire to itself use the water-power. It has the preferential right, but to avail itself thereof, must commence work within a year from the adverse application.

To withdraw waters from navigable or floatable rivers, special authorization from the Government is necessary.²²

The *Usinas Electricas del Estado*, a State corporation, is given an exclusive monopoly of supplying electricity to the public for light, power, traction, etc., throughout the Republic (Law of October 18, 1912). The only exceptions are two existing tramway companies in Montevideo.

VENEZUELA

In Venezuela, rivers are of the public domain (art. 456 Civil Code) and are inalienable (art. 460). The right of riparian owners to the use of the waters is however recognized (arts. 570 *seq.*). They may use them freely, for irrigation or industrial purposes provided they be returned to their natural course (art. 572) or if the quantity of water is sufficient to permit doing so without prejudice to third parties, may withdraw the water (art. 573): provided, however, that no use prejudicial to navigation or floating be made (art. 574).

The servitude of aqueduct by operation of the law is recognized to a liberal extent (arts. 584 *seq.*) compensation of course being paid and reasonable conditions prescribed (*id.*).

²⁰Article 600 Rural Code.

²¹Art. 346, Subdivision 3 is a repetition of Art. 478, Subdivision 5, of the Civil Code, *supra*.

²²Civil Code, art. 555.

Venezuela is one of the few countries where the necessity of conserving the forests in order to maintain the water supply has been recognized and conservation laws adopted. Grants in fee cannot be made of public lands within 250 meters of navigable rivers and lakes or within 25 meters of non-navigable waters. Nor can grants be made of public forest lands the conservation of which is deemed advisable for reasons of public utility, especially for the purpose of conservation of water supply (Law of Public Lands of July 4, 1912, art. 11). The destruction of forests necessary to maintain the water supply is prohibited: and suit to enjoin upland owners from clearing or cutting down their woodlands can be brought by the owners of waters prejudiced thereby. The Government can expropriate privately owned woodlands which it deems advantageous for the conservation of water supply for present or future town uses (Laws of June 15, 1910).

Public service corporations would seem entitled to make use of the right of condemnation for water-power enterprises (Law of Expropriation for Public use, June 18, 1912, art. 2). In general Congressional declaration that works are for public use is required (art. 10) but is not necessary for the construction or enlargement of aqueducts, canals and ports, irrigation systems and the conservation of waters. For such cases, the decree of the President, of the State or of the Municipality, as the case may be, within whose jurisdiction the works fall, is sufficient (art. 11).

There might be a question whether the New Constitution of 1914 has not abrogated the foregoing rule and made Congressional approval requisite at least in cases where navigable waters are concerned. Under it, all legislative and executive jurisdiction over navigation and docks is reserved to the Federal Government, and the navigation of rivers and other waters cannot be impeded by taxes or under franchises, except where special works have been required to create navigability (art. 19—subdiv. 9) and contracts in respect of water powers in navigable rivers would seem to be comprised within those requiring the approval of the National Congress (art. 58—subdivision 10).

BRAZIL

Brazil inherits its law from Portugal and not from Spain. The elementary principles of its laws of Waters as contained in the Civil Code seem to be similar to those of Argentine. Attention is called to the following laws:

"The Government shall foster the utilization of hydraulic power for transformation into electrical energy applied to federal services, and may authorize the employment of the excess of power for the furtherance of agriculture, industry and other purposes and may grant special privileges to enterprises proposing to engage in such services. These concessions shall be free, as provided in the Constitution, from any customs or municipal charges (Law No. 1145 of December 31, 1903, art. 23).

The President of the Republic may grant, to enterprises, generating electricity from water power, that may be organized for purposes of public use or advantage, exemption from customs duties, the right of expropriation of the lands and improvements necessary for the installation and carrying out of the respective services and the other special

privileges comprised in art. No. 23 of Law No. 1145 of December 31, 1903. (Art. 18, Law 1316 of December 31, 1904)."

These laws, however, do not give the right of expropriation of privately owned water currents. (Valladão: Bases para o Codigo das Aguas da Republica, p. 29, Rio de Janeiro, 1907).

MEXICO

*Laws Concerning Waters and Water Rights.*²³

CHAPTER 1. Public Waterways and Rights Therein. (Laws of 5, June, 1888.)

ART. 873. *General Ways of Communication.*—Besides the national highways, railroads, etc., the following are general ways of communication under fraction 22 of Article 72 of the Constitution: The territorial seas; the estuaries and lagoons along the coasts of the Republic; the canals constructed by the Federation or with aid from the national Treasury; interior lakes and rivers, if navigable or floatable; lakes and rivers of any class and for their whole length, which serve as boundaries of the Republic or of two or more States of the Union (Art. 1).

ART. 874. *Regulation—Public and Private Rights.*—The guarding and policing of the foregoing general ways of communication depends upon the Federal Executive, who has also power to regulate the public and private uses of the same, on the following bases: *a*, The towns along their course shall have the free use of the waters needed for the domestic service of the inhabitants; *b*, the rights of private persons in respect to easements, use and supply of waters created in their favor upon rivers, lakes and canals will be respected and confirmed, provided such rights are founded on lawful titles or civil prescription of more than ten years; *c*, the concession or confirmation of private rights upon lakes, rivers and canals can only be granted by the Department of Fomento when it neither produces or threatens to produce any change of their course, nor deprives the lower riparian dwellers of the use of their waters; *d*, fishing, pearl-hunting, and the use and utilization of the estuaries, lagoons along the shores and on public lands, and of the other territorial seas, will be specially regulated by the Federal Executive. Ordinary crimes committed on interior lakes, rivers and canals and jurisdiction over controversies between private persons in regard to the application of the Regulations issued by the Fomento, belong to the competent local tribunals. (Arts. 2-3.)

CHAPTER 2. Concession of Water Rights. (Law of 6, June, 1894.)

ART. 875. *Concessions—Conditions.*—The Executive is authorized in accordance with the present Law and that of 5, June, 1888, to grant concessions to individuals and companies for the better utilization of the waters under federal jurisdiction, for irrigation and as power adaptable to various industries. Such concessions will be granted on the following conditions: 1, Previous publication of the petition in the official newspaper of the Federation and of the proper State; 2, without prejudice of third parties, any oppositions arising being first decided by the competent tribunals; 3, presentation of plans, profiles and descriptive reports for the complete understanding of the projected works, within the time prescribed in the concession; 4, the admission of an engineer appointed by the Executive and paid by the *concessionaire*, as inspector of the work of planning and construction of all the works; 5, making a deposit of bonds of the public debt to guarantee the performance of the obligations contracted by the *concessionaire*; 6, the submission of the tariffs for the sale and leasing of the waters to the examination and approval of the Department of Fomento. (Arts. 1-2.)

ART. 876. *Franchises and Exemptions.*—The Executive may grant to the *concessionaires* the following franchises and exemptions: 1, Exemption for five years from all federal taxes except stamp taxes, on the capital

²³Wheles' Handbook of the Laws of Mexico.

employed in laying out, construction and repair of the works defined in the concession; 2, the importation at one time free of duty of the machinery, scientific instruments and apparatus necessary for the laying out, construction and operation of said works; 3, the right to occupy without cost the public lands for the passage of canals, for the construction of dams or dikes, and for the formation of deposits; 4, the right of expropriation from private persons because of public utility, upon indemnity and on the same terms as railroads, of the lands necessary for the foregoing uses. The Executive may also grant the free importation of machinery and apparatus necessary for the utilization of water for irrigation or motive power, under concessions granted by the States for that purpose, provided the *cessionnaires* give security for carrying out their works, and under such rules and limitations as may be prescribed by the Executive, who will also issue regulations for the utilization of waters in the Federal District and Territories, and who may also grant concessions for constructing dams and forming deposits in accordance with the principle of the Civil Code. (Arts. 3-5.)

CHAPTER 3. State Concessions of Water Rights. (Law of 17, December, 1896.)

ART. 877. *Revalidation—Conditions.*—The Executive will revalidate for this one time the concessions granted up to this date by the State authorities to private persons to utilize the waters of rivers or streams classified as under Federal jurisdiction by Art. 1 of the Law of 5, June, 1888, provided that they comply with the following requisites: 1, That the revalidation be solicited within one year from the promulgation of this law; (other detailed requirements of the petitions and proceedings are omitted, as now of no concern.) (Arts. 1-3.)

ART. 878. *Future Concessions.*—Where concessions are sought from the States in respect to a water course of a doubtful character, whether in regard to its being navigable or floatable, or as to its situation as the probable boundary between two or more States, the State authorities, before granting a concession for the use of its waters, must consult the Federal Government in respect to the definitive character of such water course; concessions made without observing this requirement can hereafter under no circumstances be confirmed. (Art. 4.)

ART. 881. *Mining Rights—Public Utility.*—The owner of a mining property has the right to extract and make use of all the substances above mentioned found on the surface or in the subsoil of his property, but cannot extend his workings beyond its limits although surrounded by free ground; he may also make use of the waters encountered in the workings, and extract and dispose of the same with all of the substances which they hold in suspension or solution, but cannot claim indemnity where such waters are exhausted or diminished through the drainage of other mining properties. Where the striking of waters in the interior workings causes the exhaustion or diminution of springs belonging to another owner, the latter may recover the waters belonging to him, provided he does not deprive the owner of the mine of the water he needs for his own work, and the former cannot require indemnity for the same; the conveyance or loss of a mining property carries with it the right to the interior waters. The mine "dumps" constitute an accession of the mining property from which they arise; if their origin cannot be determined, their ownership will be governed by the common law.

The mining industry is of public utility, hence the owners of mining property have the right of expropriation (eminent domain) in the cases and conditions (see arts. 895-6) prescribed in this law. (Arts. 7-10, 134.)

CHAPTER II. Legal Easements of Waters.

ART. 268. *Surface and Collected Waters.*—Lower lands are subject to receive the waters, as well as earth and rocks carried by them, which naturally and without the work of man flow onto them from higher lands;

the owner of the lower lands cannot construct works to impede, nor the owner of the higher lands to aggravate such flow. The owner of the lands on which they are, or on which it is necessary to construct, defensive works to restrain the water, must either make the repairs or constructions, or permit the owners of lands exposed to damage to make them without prejudice to him, unless the special police laws impose the duty of making them on him; this applies to cases where it is necessary to free some estate from materials which impede the course of the water to the damage or danger of third persons; all owners sharing in the benefits of such works must contribute to their cost in proportion to their interest, in the opinion of experts, and those who by their fault occasion the damage are liable for the costs.

The owner of lands on which there is a natural spring, or who has constructed a flowing well, cistern or dam to retain the rain water on his property, may freely dispose of the water; if surplus waters escape onto another property, the owner of the latter may acquire the ownership of them by the lapse of ten years from the time he constructs works intended to facilitate the fall or flow of the waters, but the owner of the spring or dam may make all possible use of the waters within the limits of his own property; he is not liable for damages, although his well decreases the water in that on other property (Arts. 957-964, 969).

ART. 269. *Public and Navigable Waters.*—The ownership which the State has over waters does not prejudice the rights lawfully acquired therein by private persons or corporations in accordance with the special laws in regard to public property, but the exercise of such rights is subject to the following limitations: No one may use the waters or banks of rivers in such way as to obstruct navigation, nor construct works which impede the free passage of boats or rafts, or other modes of river transportation, nor can such right be acquired by prescription or otherwise; nor can any one using the water of a river impede the use of the water necessary for the supply of towns or properties, or the construction of works necessary to obtain it in the way least burdensome to the owner, but he is entitled to compensation unless the inhabitants have acquired the use of the water by prescription or other lawful title. The provisions of the Code in regard to easements of waters do not effect the rights heretofore legally acquired thereto; but the owner of the waters cannot change their course in such way that they damage others by overflow or otherwise (Arts. 965-968).

ART. 270. *Conduction of Water—Incidents.*—Any one wishing to use water of which he may dispose, has the right to conduct it through intermediate properties, except buildings and their yards, gardens and other dependencies, upon indemnifying the owners and those of lower lands through which the water percolates or falls. The person making use of such right must construct the necessary channel through the intermediate properties, although there are canals thereon for other waters, unless the owner of the latter offers their use without disadvantage to the former; the passage of waters must also be permitted across the canals and aqueducts in the readiest way, provided that the course and volume of the water in the latter are not altered or the waters of the two are not mingled. Where it is necessary to carry the aqueduct through a public road or stream, permission must first be obtained from the public authority to whose inspection it is subject, which permission will only be granted subject to the police regulations and on condition that the water be carried across without obstructing or damaging the road or stream; if without such permit he conducts the water or spills it on the road, he must restore it to its former condition and pay all damages caused, besides being liable to the penalties imposed by the police regulations.

Before making use of the above right, the party claiming it must: 1, Prove that he has the right to dispose of the waters he seeks to conduct; 2, show that the passage which he asks is the most convenient one for the purposes for which he wants to use the water; 3, that it is the least burdensome for the properties through which it is to pass; 4, pay

the value of the land which the canal is to occupy, as estimated by experts, and one-tenth more; 5, indemnify the immediate damages, including those resulting from dividing the servient estate into two or more parts, and any other depreciation. Where the servient owner offers the use of existing canals, the party conducting the water, must pay, in proportion to its volume, the value of the canal and the costs of its maintenance, and other costs caused by the passage of the water. The amount of water carried through a canal on another's land is only limited by the capacity of the canal, and it may be amplified upon paying the costs and the value of the land taken and the damages caused. These provisions apply to the drainage of swamp lands.

The easement of waters carries with it the right of passage for persons and animals and the carriage of materials for the use and repair of the aqueduct and the care of the water conducted, on the terms provided in the next Article. The concessions of waters made by competent authority are presumed, made without prejudice to other rights previously acquired. Every one making use of an aqueduct on his own or other's lands must construct and maintain all the necessary works to prevent injury to others, and if there are several interested, they will all contribute to the expenses in proportion to their interest, unless otherwise agreed (Arts. 970-987).

S U M M A R Y

OF PAPER ON

"LAWS AND REGULATIONS REGARDING THE USE OF WATER IN PAN- AMERICAN COUNTRIES"

**BEFORE THE SECOND PAN-AMERICAN SCIENTIFIC CONGRESS,
HELD AT WASHINGTON, D. C., DECEMBER 27, 1915, TO
JANUARY 8, 1916**

**BY ROME G. BROWN
Minneapolis, Minnesota**

For Spanish translation of this Summary, see pages 9 to 17.
(Para la versión Castellana de este Resumen, vease las paginas 9 á 17.)

SCOPE OF THIS DISCUSSION

The proper utilization of the natural resources of the Pan-American countries is of the greatest importance to their internal development as well as to their industrial and political relations with each other.

Of all such resources, the fresh-water streams of these countries are ever present, ever renewed, and, therefore, inexhaustible, resources for industrial supremacy.

Unlike the fuel resources of coal and oil, the energy of the water fall is not latent, and, if not confined and utilized, it is forever wasted and becomes a part of the great useless waste of Nature which cannot be recouped.

Conservation of the natural resources of a country demands the greatest and most immediate prevention of this constant waste of energy from undeveloped water powers, and requires the greatest and most extensive utilization which can possibly be made consistently with proper protection of the interests of individuals and of the public at large.

The principal cause of this uneconomic waste is, in all cases, that legislation for the regulation and use of water resources,

instead of promoting their use, has become an obstacle to their use. Legislation has not kept pace with the progress of the science of water-power development and use.

It is the main scope of this paper to summarize, with reference to the uses of water, and particularly of water powers, the laws, and regulations under public authority, existing in the Pan-American countries, and especially to note certain ways in which such laws are obstacles to that utilization of these resources which would otherwise be made, as well as to suggest possible remedies in such legislation.

GENERAL SOURCES OF THE LAW

In most Pan-American countries, with the exception of the United States, the sources of the law of water rights are, as other phases of their laws, Spanish law. The fundamental principles of the Spanish law, as applied in these countries, was further confirmed or modified by the introduction into their Colonial law of certain principles of the French law. Further modifications have been caused by local and partial recognition and adoption of principles of law which are more peculiarly those of the United States, where the law of waters is generally founded upon that of the English law. But in the United States, wide modifications from the English law have been made to suit the physical conditions peculiar to our country and not characteristic of the mother country to which the English law was adapted.

Spanish Law:—Until the Independence, Spanish law was in force in Spanish America. Since then it has been modified by various codes modelled largely on the Napoleonic Codes. The *Siete Partidas*, the great medieval Code, divided "things" into common things (*comunes*),—those belong to private persons,—and those consecrated to the service of God. Common things were divided into, (a) those common to all living creatures, as the air, rain water, the sea and its shores; (b) those common to all mankind, as rivers, ports, and highways; and (c) the common property of cities and towns to be used only by the inhabitants thereof, as fountains. Private rights in waters were recognized, but some rivers were taken to be the property of the King. Mill dams could be erected in public or private streams under a grant from the King. The ownership, use, and enjoyment of waters which arose and died within the confines of one estate, belonged

to the owner of the land. The theory of governmental control of rights in rivers increased, especially for the protection of navigation, and exclusive private rights could be acquired only by special Royal Privilege or an immemorial user.

Colonial Law:—While generally following the Spanish law, the Colonial private law reserved in the King the dominion of rivers in America; but laws of the Indies made waters, not granted to private parties, common to all. Confusion existed in the Colonial law and was increased by the introduction of the modern Codes based on the French Codes; and it is only in very recent years that the law has made any marked progress toward the solution of the puzzling questions left open by the Codes, as to the effect of the large arbitrary powers of granting special concessions exercised by dictatorial governments.

UNITED STATES LAW

In the United States there are 20,000,000 kilowatts of water power so situated as to be commercially feasible for development, that is, susceptible of utilization at a profit, in case only reasonable conditions to development were imposed upon the investor. Of this number only about one-fourth are actually developed, and the other three-fourths are unnecessarily running to waste. Of this wasting water-power energy 75% is located upon navigable streams, and is, therefore, under the laws of the United States, either directly or indirectly, subject to Federal legislation. This immense waste is due, primarily, to deficiencies in Federal legislation, and, to a great extent also, to defects in State legislation.

FEDERAL LEGISLATION

In the United States, the Federal government is one of expressly limited powers, all other powers of legislation and control being expressly reserved to the several States. The power of the Congress to regulate water powers on navigable streams arises solely from its constitutional power to "regulate commerce" between the States. It may, therefore, supervise water-power structures in navigable streams, in order that they may not interfere with navigation. But such regulations and statutes have been unreasonably and unnecessarily restrictive of water power development, because they place prohibitive burdens upon private investors,

not necessary for, and not consistent with, reasonable protection of navigation interests.

Water Powers on the Public Domain:—Permits for development of water powers on the public domain are granted by the Department having the lands in charge, and are revocable at will. They are subject to such conditions as the Department may impose, not only when the permit is granted, but subsequently thereto. There is no power to make terms and conditions free from unlimited uncertainties as to tenure, and as to the burdens to be borne by the investor. Private capital has halted before such conditions; and, out of 5,000,000 kilowatts of water power on the public domain which are capable of commercial development, less than one-tenth has been developed.

Water Powers on Navigable Streams:—Under its power to regulate commerce, the Congress, in order to protect navigation interests, has passed certain "Dam Acts", with reference to water-power dams on navigable streams. Such structures are prohibited except by express consent of the Congress and under conditions imposed by statute and by the Department of War, whose approval of the structures and the terms of the permit must be obtained. By these Acts the term of the consent cannot exceed fifty years, and at the end of that period the investor has no rights. The power of revocation is reserved without adequate protection to the private investment made under the permit. There is no limit fixed as to the possible conditions and burdens which may be imposed as part of the permit, or which may be added thereto afterwards.

These acts have been prohibitive of water-power development. The present administration is proposing remedial measures, by which obstacles to investment will be removed and water-power development encouraged.

Water Powers at Government Navigation-Dams:—The Federal Government sometimes builds, at its own expense, or in cooperation with private investors, navigation dams where there is an incidental water power development of a size in excess of that necessary to operate the navigation-dam. Where the Government has acquired all the riparian rights, such excess water power belongs to the Government and can be leased to private users on such terms as can be obtained; and thus the investment-cost

to the Government of navigation improvements may be diminished. In some instances the cost of improvement for navigation alone would be prohibitive, and it would also be prohibitive for water-power development alone. In such cases the policy is, to make a co-operative agreement between the private investor who desires the water-power development and the Government which desires the navigation development; and both interests are served, at a reasonable investment-cost, by such co-operation.

STATE LEGISLATION

The Federal right of control for protection of navigation is paramount to the right of State control of streams, and also to the rights of individuals. Subject only to this paramount Federal right, the rights of the States and of the individuals thereof to develop and use water powers of both navigable and unnavigable streams, is fixed by the property laws of the respective States.

In most States east of the Mississippi River the English common law of riparian rights prevails, and the private owner of the riparian land has the right to develop and use the water powers appurtenant thereto. In other States, west of the Mississippi River, the law of riparian rights has been either repudiated or modified. There the rule of right by prior appropriation generally prevails, and the uses of water are subject to appropriation rights according to the law of the State.

The tendency of State legislation with reference to water powers is more and more that which has been noted to exist in the case of Federal legislation. The private property rights of riparian owners are attempted to be confiscated by legislation which views the control, and even the ownership, of water powers within the State, as belonging to the State or to the public, and as public resources for the purposes of revenue. This theory of State legislation is also repugnant to the property rights of individuals and has discouraged investments of private capital in water-power development.

WATER POWERS IN SOUTH AMERICA

South America, while affording magnificent water-power possibilities, is more sparingly supplied with oil and coal than any other of the continental land bodies of the world, with the possible exception of Africa. This southern continent is favored with the

natural resources of coal and oil to only a comparatively insignificant degree. On the other hand, water powers are found in almost every part of South America, the Pampas country and the rainless district of Northern Chile being among the few exceptions.

In Chile, there are occasionally fuel famines, from lack of coal and oil fuel, causing loss and suffering. Nevertheless, it is the most favorably located country in the world for easy and comparatively inexpensive hydro-electric development. But such development has been slow.

In Peru, which has more coal and oil resources than other South American countries, the lack of transportation facilities makes the price of such fuel generally prohibitive. There, however, the practical opportunities for water-power development are very great, and the 75,000 kilowatts already developed are insufficient to meet the present, unsupplied demand.

In Bolivia, Ecuador, Colombia, Venezuela, and Paraguay, little has thus far been accomplished in hydro-electric development, but this retardation of development is due largely to the location of undeveloped water powers at too great a distance from populous communities to make transmission at the present time feasible. The same limitations of transmission, preclude the great population centers of the cities of Buenos Aires, Montevideo, La Plata, and others, from utilizing the water powers on the streams flowing into the Atlantic from the Eastern slope of the Andes.

In the Argentino-Uruguayan country, the great Mendoza River has a fall of 9,000 feet in a distance of 100 miles, which presents water-power possibilities unequalled anywhere in North America, except perhaps in Alaska. There is, at the present time, demanded by the population and the industries of the surrounding country, within easy transmitting distance, over 200,000 kilowatts of power, which is far less than the capacity of the Mendoza.

In British Guiana, the Potaro River presents the highest fall of great volume in the world. The river, 300 feet wide, drops 700 feet, and the immense energy from this cataract is wasting until increase in population and in industrial development shall create a demand warranting the expense of the long transmission lines necessary to bring the power to a market.

DEFECTS IN SPANISH-AMERICAN LAWS

But physical obstacles and the lack of appreciation of the opportunities open to commercial development are not the cause, in these

southern countries, of the waste of water-power energy, the utilization of which is already commercially feasible. As in the United States, the first requisite for the promotion of water-power development, and, therefore, for the prevention of waste of this natural resource, is legislative encouragement to private investors, who must furnish the capital for hydro-electric development. The hazards incident to such investment, even under the most favorable laws and regulations, are very great. But the physical hazards may be overcome or diminished. Before such dangers capital does not show timidity. What capital demands in such investments is certainty of tenure, and security from confiscation, sufficient to warrant dependence upon reasonable returns. Such security can only be afforded by laws, which, at the same time that they protect the interests of the public, also protect the investments which shall be made in furtherance of the public interest in the utilization of water-power resources.

In none of the countries of Spanish-America are the laws formulated in such a way as to attract private investment. The fact that there are already such investments only indicates the certainty of much greater development in the immediate future in case unreasonable legislative hazards to investment are decreased or eliminated.

WATER RIGHTS IN SPANISH-AMERICAN COUNTRIES

In the remaining part of this paper is summarized the laws and regulations of water rights in the countries of Argentina, Chile, Colombia, Cuba and Porto Rico, Uruguay, Venezuela, Brazil, and Mexico; and the paper closes as follows:

CONCLUSION

It is apparent that the conservation of water resources, through the utilization of the wasting water powers of the Pan-American countries, including the United States, can only be accomplished by the adoption of a legislative policy which shall invite private investment in such enterprises. The universal fault with existing policies of legislation, in these matters, is, that the prospective investor, asking for a grant, or concession, or permit, is viewed as one asking, for his own private benefit, a gift from the public. The theory is too much prevalent that, because water resources are a natural resource, they are, for that very reason, a purely public resource, and not by nature or by law for development in any

other way than through the direct supervision of public authorities and for the exclusive and direct benefit of the public at large. But water powers are local in their very nature. The assertion of a right of benefit, through direct participation by the general public in the proceeds derived from the utilization of water powers, is an assertion that natural water powers are intended to produce only for the public treasury. Such a view of water-power resources leads to the legislative policy of imposing by statute the utmost burdens possible, and even impossible burdens, upon private investment. Experience has demonstrated that utilization of wasting water powers cannot be accomplished by their development by the public authorities; but only through the capital of private investors. Such investors, however, rightly demand that security for their investment which shall afford to them reasonable protection against confiscation and loss of their investment, and against failure to receive fair returns therefrom.

There are millions of dollars of capital in the hands of American financiers ready for investment in water-power developments, not only in the United States but in all of the Pan-American republics, but which are withheld from such investments because of the financial obstacles presented in these various countries through an almost universal absence of a legislative policy which will allow such investments to be made with reasonable safety.

SUMARIO

DE LA MEMORIA SOBRE

“LEYES Y REGLAMENTOS QUE GOBIERNAN EL USO DEL AGUA, EN LOS PAISES PAN-AMERICANOS”

LEIDA ANTE EL SEGUNDO CONGRESO CIENTÍFICO PAN-AMERICANO
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por ROME G. BROWN,
Minneapolis, Minnesota.*

OBJETO DE LA DISCUSIÓN

El acertado aprovechamiento de los recursos naturales de los países Pan-Americanos es asunto de grandísima importancia para su desarrollo interno así como para las relaciones industriales y políticas entre esos países.

De todos esos recursos, las fuentes y corrientes de agua dulce en esos países están siempre presente, siempre en renovación y por consiguiente, son recursos inextinguibles para la supremacía industrial.

De distinta manera que los recursos de combustible del carbón y del aceite, la energía de la caída de agua no es latente, y si no se la somete y se la utiliza, se gasta eternamente y se convierte en una parte de los grandes derroches de la Naturaleza, que no pueden recobrase.

La conservación de los recursos naturales de un país requiere la mayor y más inmediata prevención de ese constante derroche de energía producida por fuerzas hidráulicas no aprovechadas, y requiere la mayor y más extensa utilización que sea posible y que se avenga con la correcta protección de los intereses particulares y de los intereses públicos.

La causa principal de ese derroche antieconómico, en todos los casos, es que la legislación para la reglamentación del uso de los recursos hidráulicos, en vez de promover su aprovechamiento, se ha convertido en un obstáculo para su utilización. La legislación

* Traducción por los señores Manuel Gonzalez Z. y Phanor J. Eder.

no va de acuerdo con los progresos de la ciencia en el desarrollo y uso de la fuerza hidráulica.

El principal objeto de esta memoria es el de pormenorizar, con respecto á los usos del agua y particularmente de las fuerzas hidráulicas, las leyes y reglamentos que existen mantenidas por autoridades públicas, en los países Pan-Americanos, y especialmente anotar los casos en los que tales leyes son obstáculos para el aprovechamiento de estos recursos, que de otro modo se utilizarían, y así mismo indicar los posibles remedios para tales leyes.

ORIGENES GENERALES DE LA LEY

En la mayor parte de los países Pan-Americanos, con excepción de los Estados Unidos, la fuente de las leyes sobre derechos de aguas, así como otras facetas de sus leyes, es la Ley Española. Los principios fundamentales de la Ley Española, tal como se aplican en estos países, fueron más tarde confirmados y modificados por la introducción en sus leyes de ciertos principios de la Ley Francesa. Modificaciones posteriores fueron ocasionadas por reconocimiento y adopción local y parcial de principios de derecho que son más peculiarmente los que rigen en los Estados Unidos, en donde la ley de aguas está generalmente fundada en la Ley Inglesa. Pero, en los Estados Unidos se han efectuado amplias modificaciones de la Ley Inglesa a fin de ajustarse á las condiciones físicas peculiares de nuestro país y que no son las características de la madre patria á las cuales se adapta la Ley Inglesa.

Ley Española:—Hasta la Independencia, la Ley Española rigió en la América Española. Desde entonces se ha modificado por varios códigos modelados en gran parte en los códigos de Napoleón.

Las Siete Partidas, el gran Código de la Edad Media, dividía las "Cosas" entre cosas comunes,—las que pertenecían á las personas,—y aquellas que estaban consagradas al servicio de Dios. Las cosas comunes se dividían en (a) las comunes á todas las criaturas vivientes, como el aire, la lluvia, el mar y sus costas, (b) aquellas comunes á toda la humanidad, como los ríos, los puertos y los caminos; y (c) aquellas que constituían la propiedad común de las villas y ciudades para ser solamente usadas por sus habitantes, como las fuentes. El derecho privado sobre aguas estaba reconocido, pero algunos ríos se consideraban como de propiedad del Rey. Podían construirse con permiso del Rey, represas para molinos, en corrientes públicas y privadas. La propiedad, uso y

goce de las aguas que brotaban y morían dentro de los confines de una misma heredad, pertenecían al propietario del terreno. La teoría del control gubernativo de los derechos sobre ríos, aumentó, especialmente para la protección de la navegación, y los derechos privados exclusivos, solamente podían ser adquiridos por Privilegio Real, ó por uso por tiempo inmemorial.

Ley Colonial.—Aun cuando siguiendo en general la Ley Española, la Ley Colonial privada reservaba en el rey el dominio de los ríos de América; pero las Leyes de Indias hicieron de dominio común las aguas que no habían sido concedidas á particulares. Existía confusión en la Ley Colonial y esa confusión se acrecentó con la introducción de los códigos modernos basados en el código Francés, y solamente en los últimos años ha sido que la ley ha hecho marcado progreso hacia la solución de los complicados problemas que los códigos dejaron sin resolver, con relación al alcance de las grandes y arbitrarias facultades ejercitadas por gobiernos dictatoriales en el otorgamiento de concesiones especiales.

LEY DE LOS ESTADOS UNIDOS

Hay en los Estados Unidos 20,000,000 kilowatios de fuerza hidráulica, de tal manera situada que es comercialmente factible su desarrollo, es decir, susceptibles de utilización y provecho, para el caso en que á quien invirtier se sus capitales en ello, se le impusieran solamente condiciones razonables para su desarrollo. De la mencionada cantidad, solamente cerca de una cuarta parte se encuentra aprovechada, y las otras tres cuartas partes se desperdician innecesariamente. De esta energía de fuerza hidráulica que se derrocha, el 75% está situada sobre corrientes navegables, y está, por consiguiente, conforme á las leyes de los Estados Unidos sujeta directa ó indirectamente á la legislación Federal. Este inmenso desperdicio se debe, en primer lugar, á deficiencias en la legislación Federal y en gran parte, también á defectos en la legislación de los Estados.

LEGISLACIÓN FEDERAL

En los Estados Unidos, el gobierno Federal tiene facultades expresamente limitadas, reservándose expresamente para los diferentes Estados todas las demás facultades de legislación y control. La facultad concedida al Congreso para reglamentar las fuerzas de agua en las corrientes navegables, nace solamente de su facultad constitucional de “reglamentar el comercio” entre los Estados.

Por consiguiente, puede fiscalizar las construcciones para aprovechamiento de fuerza hidráulica en las corrientes navegables, á fin de que no obstaculicen la navegación. Pero tales Reglamentos y Estatutos han venido sin razón y sin necesidad a ser restrictivos para el desarrollo de la fuerza hidráulica, porque establecen obligaciones prohibitivas sobre los empresarios privados, obligaciones que no son necesarias ni se avienen con una racional protección de los intereses de la navegación.

Fuerzas de Agua en propiedad de Dominio Público:—Los permisos para el desarrollo de fuerzas de agua en propiedades del Dominio Público se conceden por el Departamento que tiene á su cargo las tierras, y son revocables á voluntad. Están sujetos á las condiciones que el Departamento imponga no solamente al conceder el permiso, sino después de concedido. No hay derecho para hacer que los términos y condiciones estén libres del defecto de incertidumbre ilimitada en cuanto al plazo ó en cuanto á los cargos que deben pesar sobre el empresario. El capital privado se ha detenido en presencia de tales condiciones y de 5,000,000 de kilowatios de fuerza hidráulica en propiedad del Dominio Público, que son capaces de desarrollo comercial, menos de un décimo se han aprovechado.

Fuerzas de Agua en Corrientes Navegables:—En virtud de su facultad de reglamentar el comercio, y en consecuencia, á fin de proteger los intereses de la navegación, el Congreso ha emitido ciertas “Leyes de Diques” (“Dam Acts”) con referencia a presas para fuerza hidráulica en corrientes navegables. Esas construcciones están prohibidas excepto por expreso consentimiento del Congreso y bajo condiciones impuestas por ley y por el Departamento de la Guerra, del cual han de obtenerse la aprobación de la construcción y los términos del permiso. Por esas Leyes, el plazo de la concesión no puede exceder cincuenta años y al final de ese plazo el empresario queda privado de sus derechos. El poder de revocatoria queda reservado sin que se provea á una adecuada protección para la inversión privada hecha por razón del permiso. No se fija limite alguno con respecto á las posibles condiciones y cargas que pueden imponerse como parte del permiso, ó que puedan agregarse después de otorgado.

Estas Leyes han venido a ser prohibitivas para el desarrollo de la fuerza hidráulica. La actual administración está proponiendo medidas que remedien el mal, por las cuales se remuevan los

obstáculos con que tropieza el empresario y las que alentarán el aprovechamiento de esa valiosa fuerza.

Fuerzas hidráulicas en Diques de Navegación pertenecientes al Gobierno:—A veces el Gobierno Federal construye de su propio peculio, ó en cooperación con empresarios privados, diques de navegación en los que incidentalmente se produce fuerza hidráulica mayor que la que se necesita para el manejo del dique de navegación. Cuando el Gobierno no ha adquirido todos los derechos ribereños, tal exceso de fuerza hidráulica pertenece al Gobierno y puede arrendarse á particulares bajo las condiciones que se señalen; y así el costo de inversión para el Gobierno, en la mejora de la navegación, puede disminuirse. En algunos casos el costo de las solas mejoras, de navegación sería prohibitivo, y también sería prohibitivo el costo del solo aprovechamiento de la fuerza hidráulica; en tales casos el medio sería el de un arreglo de cooperación entre el empresario privado que desea la fuerza hidráulica y el Gobierno que desea el desarrollo de la navegación; y ambos intereses quedan servidos á un costo razonable, por esa cooperación.

LEGISLACIÓN DE LOS ESTADOS

El derecho federal de control para la protección de la navegación es Superior al derecho del Estado para controlar las corrientes de agua y también á los derechos de los particulares. Sujetos solamente á este derecho Superior Federal, los derechos de los Estados y los de los individuos para el desarrollo y uso de las fuerzas de agua de las corrientes navegables ó innavegables, están fijados por las leyes de la propiedad en los respectivos Estados.

En la mayoría de los Estados al Este del Rio Mississippi, rige la ley común Inglesa sobre derechos ribereños, y el propietario de la ribera tiene el derecho de desarrollar y usar las fuerzas hidráulicas que a ella corresponda. En otros Estados, al Oeste del Rio Mississippi, la ley de derechos ribereños ha sido repudiada ó modificada. En ellos, la regla del derecho de primera ocupación generalmente prevalece y los aprovechamientos de las aguas están sujetos á los derechos de ocupación en conformidad con las leyes del Estado.

La tendencia de la Legislación de los Estados con respecto á fuerzas hidráulicas cada vez se asemeja más á la que se ha indicado que existe en el caso de Legislación Federal. Los derechos de propiedad particular de los propietarios ribereños se tratan de confiscar por medio de leyes que tienden al control y aún al dominio

de las fuerzas hidráulicas dentro del Estado como si pertenecieran al Estado ó al público y fueren recursos públicos para obtener rentas. Esta teoría de la Legislación del Estado está también en pugna con los derechos de propiedad de los individuos y ha desalentado la inversión de capitales privados en el desarrollo de fuerzas hidráulicas.

FUERZAS HIDRÁULICAS EN SUD AMÉRICA

Sud América, al mismo tiempo que goza de magníficas posibilidades en cuanto á fuerza hidráulica, está provista menos profusamente de aceite y de carbón que cualesquiera otro continente en el Globo, con excepción posible del Africa. El Continente del Sur solamente cuenta con insignificantes recursos naturales en yacimientos de carbón y depósitos de aceite. En cambio, fuerzas hidráulicas se encuentran en casi todas partes en Sud América; entre las pocas excepciones, son la región de las Pampas y el distrito sin lluvias del Norte de Chile.

Ocasionalmente ocurren en Chile grandes escaseces de combustible, por falta de carbón y de aceite, causando pérdidas y sufrimientos. Sin embargo, es el país más favorablemente situado en el mundo entero por la inmensa facilidad que presenta para el desarrollo barato de fuerza hidro-eléctrica. Pero ese desarrollo ha sido lento.

En el Perú que tiene más recursos de carbón y de aceite que los otros países de Sud América, la falta de facilidades para el transporte hace generalmente prohibitivo el precio de esos combustibles. No obstante, las oportunidades prácticas para el desarrollo de fuerzas hidráulicas, son muy grandes y los 75,000 kilowatios ya desarrollados son insuficientes para hacer frente á la demanda presente no satisfecha.

En Bolivia, Ecuador, Colombia, Venezuela y Paraguay, muy poco se ha hecho hasta ahora para el desarrollo de fuerza hidro-eléctrica, pero esa tardanza de desarrollo se debe en gran parte á la situación de fuerzas de agua no aprovechadas, á grandes distancias de las poblaciones ó regiones pobladas, impidiendo que por ahora sea factible la transmisión de la corriente. La misma dificultad de transmisión impide á los grandes centros de población de las ciudades de Buenos Aires, Montevideo, La Plata, y otros, utilizar las fuerzas hidráulicas que existen en las corrientes que desaguan en el Atlántico desde la vertiente Oriental de los Andes.

En el territorio Argentino Uruguayo, el gran Río Mendoza tiene una caída de 9,000 piés en una distancia de 100 millas, presentando posibilidades de fuerza hidráulica sin rival en Norte

América, excepto, talvéz en Alaska. En este momento la población y las industrias de los distritos circunvecinos necesitan y reclaman más de 200,000 Kilowatios de fuerza, cantidad que es muchísimo menor que la que puede desarrollar el Rio Mendoza.

En la Guayana Británica, el rio Potaro presenta la caída de agua mas alta y de mayor volúmen en el mundo entero. El rio, de 300 piés de ancho, caé de 700 piés de altura y la inmensa energía de esta catarata está perdiéndose hasta que el crecimiento de la población y el desarrollo industrial vayan á crear la necesidad de invertir la suma indispensable para establecer las líneas para llevar al mercado la energia que alli ha de obtenerse.

DEFECTOS DE LA LEY HISPANO-AMERICANA

Pero, los obstáculos físicos y la falta de apreciación de las oportunidades que se ofrecen al desarrollo comercial, no son la causa, en esos países del Sur, de la pérdida ó desperdicio de energía de fuerza hidráulica cuyo aprovechamiento es ya, comercialmente factible. Lo mismo que en los Estados Unidos, el primer requisito para la promoción del desarrollo de la fuerza hidráulica y por consiguiente, para prevenir el desperdicio de este recurso natural, es el aliento legislativo para el empresario privado que debe proporcionar el capital para el aprovechamiento de la energia hidro-eléctrica. Los riesgos consiguientes á tal inversión, aún bajo las leyes y reglamentos más favorables, son muy grandes. Los riesgos físicos pueden vencerse ó disminuirse. Ante esos riesgos el capitol no se muestra tímido. Lo que el capital pide en inversiones de esa especie, es certidumbre de la posesión y seguridad contra la confiscación, suficientes para garantizar el que pueda contarse con razonables utilidades. Tales seguridades solamente pueden darlas las leyes que al mismo tiempo que protejan los intereses del público, protejan tambien las inversiones que se hagan en beneficio del mismo interés público en la utilización del recurso de las fuerzas hidráulicas.

En ninguno de los países de Hispano America se han formulado las leyes de tal manera que atraigan la inversión del capital privado. El hecho de que ya existan tales inversiones solamente indica la certeza de mucho mayor desarrollo en no muy lejano dia, siempre que se disminuyan ó eliminen los riesgos de leyes irracionales que atenten contra tales inversiones.

DERECHOS DE AGUA EN LOS PAISES HISPANO AMERICANOS

En lo que aún falta de esta memoria se sumarizan las leyes y reglamentos de los derechos de agua en Argentina, Chile, Colombia,

Cuba y Puerto Rico, Uruguay, Venezuela, Brazil y Mexico; y la memoria concluye así:

CONCLUSIÓN

Es obvio que la conservación de los recursos hidráulicos, por medio del aprovechamiento de las fuerzas de agua desperdiciadas en los países Pan-Americanos, inclusive los Estados Unidos, puede solamente obtenerse por medio de la adopción de una política legislativa que invite la inversión privada de capitales en tales empresas. La falta universal de las actuales legislaciones en esta materia, es que el capitalista que proyecta invertir, que solicita una concesión ó permiso, es mirado como individuo que pide para su solo beneficio que el público le haga un obsequio. Demasiado prevalece la teoría de que puesto que los recursos del agua son recursos naturales, son, por esa misma razón, puramente un recurso público y que ni por la naturaleza ó por la Ley han de desarrollarse en manera que no sea bajo la directa vigilancia de las autoridades públicas y para el exclusivo y directo beneficio del público en general. Las fuerzas hidráulicas son por su naturaleza, locales. La aseveración de un derecho de beneficio por medio de la general participación del público en los productos derivados del aprovechamiento de las fuerzas hidráulicas, es una aseveración de que las fuerzas hidráulicas naturales no tienen otro objeto que el de producir para el tesoro público. Tal apreciación de los recursos de las fuerzas hidráulicas conduce al sistema de legislación que impone por ley las mayores cargas posibles y aún imposibles sobre los hombros del empresario particular. La experiencia ha demostrado que el aprovechamiento de las fuerzas hidráulicas desperdiciadas no puede alcanzarse por el desarrollo llevado á cabo por las autoridades públicas, sino solamente mediante capitales é iniciativas particulares. Tales empresas, sin embargo, piden con derecho tal seguridad ó garantía para su inversión, que les dé suficiente protección contra confiscaciones y pérdidas de sus inversiones, y contra las probabilidades de no obtener razonable provecho de su esfuerzo.

Hay millones de pesos de capital en manos de financieros Americanos listos para gastarse en empresas de desarrollo de fuerzas hidráulicas, no solamente en los Estados Unidos sino en todas partes de Pan-America, pero que se esquivan de entrar en la empresa por razón de los obstáculos financieros en las varias repúblicas, debidos á la ausencia universal de sistema legislativo que permita á esas inversiones el considerarse razonablemente seguras."

23.

THE NECESSITY OF FEDERAL WATER LEGISLATION

ADDRESS BY
ROME G. BROWN
MINNEAPOLIS, MINNESOTA

BEFORE THE CIVIL ENGINEERS' SOCIETY OF SAINT PAUL
SAINT PAUL, MINNESOTA
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THE NECESSITY OF FEDERAL WATER LEGISLATION

The subject of remedial National Water Legislation has been long agitated. The subject is of immense importance to the citizens, not only of the entire nation but of the several States. It is a subject particularly interesting to engineers, and is one that is discussed by all classes; but the principles involved are primarily those which are either of law or of engineering. From the viewpoint of the engineer, the lawyer is the layman; from that of the lawyer, the engineer is the layman. Some engineers have become good lawyers; and some lawyers have become good engineers. I speak, of course, primarily from the viewpoint of the lawyer.

Laymen, and even some lawyers, in discussing this subject, disclose a lack of regard for certain fundamental principles which should not be overlooked in any criticism of existing federal water laws, or in any suggestion of remedial statutes. Let us start right tonight, and understand the necessary bases of any practical national water legislation. In a misunderstanding of these necessary bases, arise many mistakes and even impractical suggestions which are often presented.

THE NECESSARY BASES OF NATIONAL WATER LEGISLATION

Referring to the water of either lakes or streams, there are certain established principles of property rights and of constitutional law which necessarily limit legislative power whether of the States or of the Congress. These same principles, as we shall see, also limit even the desirability of national legislation. Now, there are certain rights to the use of natural waters, belonging either to the respective States or to individuals, as riparian or otherwise, which have been established as public or private property rights in the different States. These local rights so established cannot be disturbed, either by legislation or by constitutional amendment. The exercise of any legislative power is limited by such local rights. But these local rights are not uniform. They vary widely. But the important point here is, that these rights are established in and for each State, under the law of the respective States,¹

¹ St. Anthony Falls Water Power Co. v. Water Commissioners, 168 U. S., 358.

and that they vary in different States. For instance, those States situated east of or touched by the Mississippi River have, generally, the English common-law of riparian rights, established as property laws of those States; under which law the riparian owner has a property right to use the waters of a stream, and the bed of a stream, for his private enterprise, exercising such use to the full extent that it does not unreasonably interfere with like use by owners above and below. In the other western States the property law is quite different, for there this English law of riparian rights has been either in whole or in part repudiated; and the rule is that of priority of appropriation, under State laws which view all water, not already appropriated for individual use, as subject to State control. So there the State establishes the rules for appropriation through which water rights may be acquired as property rights and through which such rights may be lost.

In the riparian-law States all uses of the water of a stream are subject to certain definite private uses which are paramount. Such are domestic uses, uses for stock, and, to a reasonable extent, uses for irrigation. In the appropriation States the property right is acquired by priority of appropriation, and, when once acquired, it is a right superior to that of any subsequent appropriation. In some of these western States, once the title of riparian land vests in an individual he has a prior riparian right, subject only to appropriation rights acquired prior to the vesting of his riparian title.

These are the property-right laws as to the uses of water established by the States, and, as I have shown, the State law controls. These are the property-right laws with reference to non-navigable waters. The laws as to these rights are the same also with respect to navigable waters. But with this exception: That there is one use, and with it a certain right of control, with respect to navigable waters, which are paramount to any rights of the States or of the individuals thereof. I refer to the constitutional right of the national legislature to regulate and control the uses of waters of navigable streams, for the sole purpose of preventing any unreasonable obstacle or interference with navigation. This power is derived from the clause of the Federal Constitution giving to the Federal Government the right to "regulate commerce." It has been held that the Congress has the power to protect navigable streams,—that is, the natural highways of commerce.—in the interest of navigation. The power of control is paramount to every other use, and is controlling upon the States and upon individuals. But this is limited; and, with this one exception so expressly limited, all powers of control belong to the States, and the uses of waters are governed by the laws of the States. For the Federal Constitution is an instrument of delegated powers, powers delegated to the National Government by

the States; by which the powers of that government, and of its Congress, are limited. And it is an elementary proposition that powers not so expressly delegated are reserved to the respective States.

EFFECT OF THESE LEGISLATIVE BASES

Now, it is apparent that, in formulating any national water legislation these fundamental bases, of which I have spoken, must be taken into consideration. The expressly limited powers only of the National Government can be exercised by the Congress; and, subject only to that limited paramount right of control, the law of the State governments is controlling.

Now, it seems to me, these necessary considerations were too much overlooked in the report of the committee of the American Society of Civil Engineers, which, as I understand it, is your special subject for this evening.² That committee, appointed in 1913, submitted this report three years afterwards, although the subject matter of this report has been under discussion in the Congress for nearly ten years. Since 1910 there has been no substantial dispute that the present federal water laws are impracticable, and the only question has been as to what form the admittedly necessary remedial legislation should take. It is true, this committee report admits that its recommendations for a new national water law could probably not be adopted without constitutional amendment. I doubt that any constitutional amendment, after property laws and rights of uses of water have been established, could be a valid basis for the legislation proposed by this report. But it seems to me that the report takes too theoretical a view of the subject; for the questions involved are practical and are pressing. The energy of engineers' societies should be directed to promoting remedial legislation within constitutional limits. This committee recommends that the now paramount right of control to protect navigation should be made subject to all other uses. This does not seem practicable; nor is it consistent with the natural use of streams as highways. No such subordination of this now natural and paramount use could be effected by the Congress, because the only power of that legislature is precisely this one,—to protect the interests of navigation.

This committee would have a national water law which recognizes the use of water in the following order of precedence: (1) Public water supplies; (2) watering live stock and irrigation. Precedence of these is urged as affecting food supplies. But I have already pointed out that, by the law already established and controlling, these domestic uses,—and this includes public water

²Report of Special Committee of the American Society of Civil Engineers, on National Water Law, presented at its annual meeting, January 19, 1916.

supply for the same uses,—are paramount. So, therefore, there is no need of the establishing of such precedence by national legislation, even if the national legislature had the power.

Next, (3) sewage disposal. This precedence as to sewage is recommended to be made prior to these next uses named. To create such a precedence would not only be beyond the power of the Congress, as I have shown, but would be repugnant to the property law of the States already established, which on this point would be controlling. Moreover, it would be against law and against reason, for it is against natural rights. There is no natural right, and no legal right, to pollute unreasonably the natural waters, whether it be by an individual or by a community. The pollution of natural streams by sewage is an infringement of both public and private rights to have the natural waters flow in their natural state.²

Next in precedence, the committee would place (4) the uses of waters for power; and (5) the uses for navigation. The recommendations of this committee, however theoretically desirable, are, taken altogether, unfeasible from any practical viewpoint. I apprehend that a better knowledge of the fundamental principles of water legislation would have made these recommendations somewhat different; but they illustrate my point that much misunderstanding of the fundamental law is causing great confusion in the discussion of this subject.

PSEUDO-CONSERVATIONISTS

Another great source of confusion, and one of the obstacles which are most hindering the adoption of remedial legislation, is the attitude of certain people who pretend to represent the "conservation" of natural resources. Pinchot (Gifford, not Amos) and his cult are the arch-obstructionists to progress in these matters. Their fight is, not to obtain legislation which is remedial of obvious and admitted defects, but to prevent legislation promotive of water-power development. They would even add to the impossible restrictions of existing legislation. They would proceed only on the theory that the State or the Nation, as the case may be, has practically entire ownership and control of all the uses of water and of all the advantages of revenues derivable therefrom; and they stick to this theory with such pertinacity that, no matter what remedial legislation is proposed or introduced in the Congress, or in any of the States, they resort to every sort of warfare and misrepresentation in order to prevent water-power development by private capital, and with full knowledge that without the investment of private capital the natural water-power resources of the nation must continue to waste.

²"Pollution of Waters of Lakes and Streams," by Rome G. Brown, prepared for Amer. Water Works Assn., 1900, published with additional notes in Annual Report of Minn. State Board of Health, 1901-2.

These pseudo-conservationists have the wrong view of "conservation" as applied to the development of water powers. It is true, of course, that the conservation of the fuel resources, whether it be coal, oil, or timber, means the prevention or postponement of their use so far as reasonably possible; for these resources are exhaustible, and unnecessary use means, therefore, waste. Conservation as applied to water powers, however, means precisely the opposite from what it does when applied to fuel resources; for conservation, properly viewed, means, not prevention from use, but a saving from waste.

Wherever and whenever, on the face of this globe, one cubic foot of water flows in one second from a certain elevation to an elevation one foot lower, there is exerted a definite amount of energy, which is exactly computable. That energy is represented in horse powers by the fraction $\frac{62.5}{550}$, which is .1136 horse power. Increase the amount of water flowing, and you proportionately increase the horse powers of energy exerted. Increase the distance of the fall and, again, you increase proportionately the amount of energy. If such flow is so located that its development by the investment of capital is commercially feasible, then, so long as development is postponed, there is a continuing waste of energy which can never be recouped. We burn up a ton of coal to obtain and utilize energy from it, and when it is once burned it is gone forever. If we postpone its consumption by economic methods, then, to that extent of postponement of consumption, we are saving from waste. In the case of water power, however, every prevention or postponement of utilization, otherwise commercially feasible, involves a waste. It is a waste of energy from that natural resource which the French call *la houille blanche*,—"white coal." One horse power of water power utilized for one year, or 365 24-hour days, is equivalent approximately to the power that is developed from 12 to 15 tons of coal. One horse power of water power utilized through one month is the equivalent of the use of a ton of coal; and one kilowatt of water power utilized for three weeks is equivalent to the use of a ton of coal. Our nation's coal resources are approaching exhaustion with computable certainty and steadiness. Coal is now largely used as a source of power where water power is running to waste, which otherwise than for legislative obstacles would be feasible of development and use. Conservation of water power means, therefore, not prevention from use, not postponement of use, but the most immediate and extensive use possible. Moreover, it means a double conservation, because thereby is prevented or postponed the otherwise more rapid exhaustion of fuel resources.

This false theory of conservation, to which I have referred, and the propaganda of misrepresentation through which it is pro-

moted, have constituted the greatest obstacles to the adoption of remedial water legislation.⁴

PRESENT LEGISLATIVE DEFECTS

There are today, in the United States, stated in round figures, 20,000,000 kilowatts of water-power energy which under reasonable legislative conditions would be feasible for actual commercial development, but four-fifths of which are undeveloped and still running to waste; and of this waste 75% is upon navigable streams which are under federal control for navigation purposes. This waste upon the navigable streams is due to the unreasonable burdens and restrictions which, under the present national water laws, are imposed upon investors in water-power development. These water powers, which (not directly, but indirectly and even then only in a limited sense, as I shall show) are under federal control, are of two classes: (1) Those upon the public domain; and (2) those upon navigable streams outside the public domain. Before proceeding to the discussion of necessary remedial legislation let us summarize the defects of the present laws.

Water Powers on the Public Domain:

Water powers upon the public domain are largely within the so-called "forest reserves"; such water powers being upon land

⁴The pamphlet recently circulated broadcast by Mr. Pinchot, in the name of the National Conservation Assn., of which he is president, entitled "An Analysis of the Shields and Myers Water-Power Bills," is an example of the inaccuracy and misleading nature of the criticisms emanating from that source. Note the following Pinchot statements about the Shields bill, with answers thereto which are obvious from the analysis of the bill shown in this address: 1. The grant is perpetual. (Not so. It is expressly made determinate, but only in such a way as to protect somewhat the investment already made.) 2. It postpones exercise of right of eminent domain by government until end of 50-year term. (Not so. It neither pretends to do so, nor could such thing be done even if expressly provided.) 3. No compensation for valuable privileges. (Not so. Locks and other navigation facilities are at expense of grantee and other expenses to the advantage of the public. What Mr. P. has most in mind is, that no toll or charge per horse power produced is levied, but such levy would be without right or authority, as here shown. Mr. P.'s whole theory is, that water powers should be revenue producing to the government at the expense of the investor.) 4. At end of term taking over by new grantee could be only by voluntary sale by old grantee. (Not so. See Sec. 6, providing that new grantee pay fair value same as government would if it took over the privilege to itself, and amount to be paid is determined by proceedings and binding upon the old grantee.) 5. In taking over the property the value of grant itself would have to be included in the compensation provided. (Not so. See quotation from Sec. 6 below, "no value shall be claimed by or allowed to the grantee for the rights hereunder granted.") 6. If in taking over the property a municipality becomes the new grantee, it has to pay compensation the same as other new grantees. (True. But there is no reason why property should be taken without compensation for the use of a municipality.) 7. Grant is to individuals only for private purposes, and for public service purposes to a public service corporation only. (True. For if to individuals for public service the public interest as to controlling rates could not be safeguarded under the regulation laws applicable to public service corporations.) 8. Preference in grant is given to applicants having acquired rights connected with the site in question. (True. But this is another merit of the bill. It recognizes vested rights in property and prevents their confiscation to the advantage of competitors who might desire to suppress an enterprise already started.) Mr. P.'s criticisms of the Myers bill are of the same class. He opposes any water legislation which is really remedial of present legislative obstacles to development. See "Water-Power Development—Criticism of the Shields and Myers Bill Answered," published by the Water-Power Development Assn., Munsey Bldg., Washington, D. C.

owned by the United States. The power of control partakes of the nature more of a proprietary right of control than of one restricted by express constitutional provisions. As to these water powers the question of legislation is one more of policy than a constitutional one. But the policy heretofore adopted is one of unreasonable restriction. A permit has to be obtained from the Department of Agriculture or the Department of the Interior, whichever has control over the site in question, and, no matter how much the investment required, the permittee must accept a permit which is, upon its face, and is in fact, arbitrarily revocable at any time,—that is, revocable by the same department that grants the permit. His permit, also, may be made subject to any conditions which the department may see fit to impose at the time the permit is granted. But this is not all, for his permit is made subject to any further condition which the same department may at any time choose to impose, adding further burdens or restrictions, even after his investment has been made. Indeed, if a homesteader happens to make entry upon the land covered by the site occupied by the investor's water-power plant, then immediately the permit is, by virtue of such entry, automatically revoked. And in neither case is the investor protected by provision for compensation. His entire investment is at the hazard of loss or confiscation from the moment it is made.

Again, even if the water-power site is located outside of the public domain and it becomes necessary to use or cross any part of the public domain for a transmission line or otherwise, then, no matter how slight the use, a permit must be gotten for such use, and the same hazard of revocation prevails as in the case of a permit for a public domain site.⁵

The result is, that, out of about 5,000,000 kilowatts of energy commercially feasible to be developed from the water powers upon the public domain, only about one-tenth have been developed. 4,500,000 kilowatts of energy on the public domain are unnecessarily and unreasonably allowed to continue to waste, because the legislative restrictions and hazards prevent the necessary investment of private capital.

Water Powers on Navigable Streams:

Prior to 1899 the federal water-power statutes, consistently with the constitutional power to prevent unreasonable interference with navigation, simply provided that no dam should be built or operated in a stream in such a manner as to interfere with navigation; but in that year the statute was modified so as to require a special act of the Congress permitting the construc-

⁵"*Steam Power v. Electric Power Rights on the Public Domain*," by Samuel Herrick, *Case & Comment*, Rochester, N. Y., September, 1916.

tion of a dam upon a navigable stream. Each act of Congress had its own conditions or restrictions suitable to the particular enterprise. Under these laws reasonable conditions of consent were obtained so that until 1906 water-power development progressed with rapidity. In 1906, however, and with an amendment in 1910,⁶ the theory of national legislation was changed to that of the control of water powers, as such, and not merely as necessary to protect navigation interests. Restrictions were then added which made the investment of private capital in water-power development impossible. You have seen developments on navigable streams within the past few years, but none of these has been made under any permit granted under act of Congress since 1907. These developments are under consents granted under prior acts. The absurd and unconstitutional theory of these statutes of 1906 and 1910 is, that, having the power to withhold consent, the Congress may, if it consents, attach any conditions that it chooses, and that it may delegate such power of imposing conditions to the War Department. The theory of these statutes is, that they should provide all the conditions under which any subsequent consent should be granted by Congress, and that thereafter any consent-act of Congress should be subject to those conditions.

These statutes have caused an absolute stagnation of development of water powers, and they are, therefore, repugnant to the very idea of conservation. Through the very period when water power has been made more and more available for use by the development of electrical transmission, and, therefore, has been more and more in demand, water-power development, and the industrial development which goes with it, have been retarded and prevented.

Note the hazards and burdens placed upon private investment by these statutes. The term of the permit cannot exceed 50 years, and at the end of that time the permittee has no rights whatever. No consideration is taken of the length of time required to build up his business and to get on a profit paying basis, nor of the necessary investment to keep his plant up-to-date. At the end of the 50 year term, or a shorter term if it were made shorter, he must lose his entire investment. To save himself from this loss he must amortize his plant; that is, he must add to his charges for service such amounts, beyond the otherwise ordinary charges necessary to bring a fair profit, as are sufficient to pay him back by the end of his term his entire investment. In many instances this would make his charges beyond the rate which would bring a demand for his service.

⁶Act of June 21, 1906, 34 U. S. Stat. L., 386; Act of June 23, 1910, 36 U. S. Stat. L., 593.

But that is not his only hazard. His permit may be arbitrarily revoked at any time before the end of his term, and that too without compensating him adequately for his investment. Moreover, arbitrary conditions at the will of the War Department may be imposed, and the nature and extent of the burdens or hazards which may thus be arbitrarily imposed are left indefinite and uncertain. Furthermore, he is subject to such conditions not only imposed at the time and as a part of his permit, but is also subject to other indefinite and uncertain conditions and burdens which may be imposed subsequently thereto.

This makes it impossible for any investor, acting under such a consent of the Congress and a permit issued thereunder, to compute with any business-like approximation the amount of the investment which he may ultimately be compelled to make. You know, of course, that where the investment-cost per horse power produced exceeds a fixed sum, varying under various conditions, the enterprise is not commercially feasible; that is, development and operation mean a loss of profit and a loss of investment. These water-power developments require large capital and careful financing; all of which is impossible in the face of these uncertainties and hazards before which capital necessarily shrinks.

These are the reasons for the present stagnation of water-power development on navigable streams in this country. The legislative defects now existing are apparent and not denied by any sane student of the subject.⁷

It does not satisfy the investor to say to him that the power to impose these hazards and burdens will not be exercised. He naturally demands that the conditions actually imposed and those possible to be imposed be made reasonably certain and definite so that he can make a business-like computation of the amount of capital which will be required. His natural business caution, and even his experience in these matters, warns him not to depend upon any element of good faith in the legislative body or in the department which has any delegated power of control. Why, down here at Keokuk the investors spent \$20,000,000 in making

⁷See Report National Waterways Commission, S. Doc. No. 469, 62nd Cong., 2d sess., p. 54. On this and other points see the following discussions by Rome G. Brown: "Limitations of Federal Control of Water Powers," argument before National Waterways Commission, November, 1911, published as S. Doc. No. 721, 62nd Cong., 2d sess., May 27, 1912; "The Conservation of Water Powers," Harvard Law Review, May, 1913, reprinted as S. Doc. No. 14, 63d Cong., 1st sess.; "Improvement of Navigable Rivers," address before National Rivers and Harbors Congress, December 3-5, 1913, printed as S. Doc. No. 332, 63d Cong., 2d sess.; "The Water-Power Problem in the United States," address before International Water-Power Congress, Lyons, France, 1914, published in Yale Law Journal, November, 1914; "Laws and Regulations Regarding the Use of Water in Pan-American Countries," paper before Second Pan-American Scientific Congress, held at Washington, D. C., Dec. 27, 1915, to Jan. 8, 1916, published in proceedings of that Congress. An illuminating discussion of the water-power problem both from legal and engineering viewpoints is given by Prof. George F. Swain (formerly Pres. of Amer. Society of Civil Eng.) in his "Conservation of Water by Storage," published, 1915, by Yale University Press, New Haven, Conn.

a navigation improvement in connection with their great water-power development. This construction was made under a permit of 1905 in which the conditions were made fairly certain and definite. But the act of Congress granting consent contained the usual repeal and modification clause; and an attempt was made in the Congress to add burdens of great expense to those enterprising investors under the claim that the repeal and modification clause was unqualified and that, therefore, owners and their property were subject to any further or different conditions and burdens that the Congress at any time might choose to impose. The investor cannot rely, and has heretofore refused to rely, upon any good faith on the part of legislators to treat him fairly under existing federal statutes.

RESULTS OF THIS LEGISLATION

The resulting stagnation of water-power development has been stated. On account of these drastic and impossible statutes these natural water-power resources of the country are prevented from development. They prevent conservation because they compel a continuance of waste. Not only the country at large suffers, but the various States and their citizens suffer, because they are not allowed reasonable conditions for the development and utilization of their wasting natural resources. The individual investor is prevented from promoting industrial development and from making investment which should be made attractive and not impossible for him. The national interests are suffering more and more. This country needs nitrates, not only for cheap fertilizer, but for the making of explosives. Such nitrates are made from the air by the use of power. There have been, for a long time, over \$50,000,000 of capital asking for an opportunity to go into Alabama, for instance, to develop the water powers of that State for the manufacture and sale of these nitrates, but they have not been able to obtain business-like conditions. And much capital, which has been ready for these purposes in this country, has been driven to the utilization of water powers in Canada, and even in Norway.

Next as to the proposed remedial legislation which is now pending in Congress.

THE PROPOSED MYERS BILL—WATER POWERS ON THE PUBLIC DOMAIN

We have seen the defects of the statutes now pertaining to permits for the development of water powers on the public domain. The Myers bill, so-called (S. Bill 1060, 64 Cong. 1st sess.), is before the United States Senate (as a substitution for H. R. 408, known as the Ferris bill, passed by the House). The Myers bill protects investment of the permittee from confiscation by providing

for compensation at the end of the term in case the property is then taken over by the government and the term not continued. It protects the public interest by requiring reasonable development from time to time as market conditions require, and gives to the Interstate Commerce Commission powers to regulate rates for interstate service. It limits the arbitrary authority to fix rental charges, as conditions of the permit, to a charge of 25c per year per developed horse power. Under the present statute the amount of these charges is unlimited, and may be increased at the will of the department even after investment. Such charges are not viewed as inconsistent with the exercise of the power of the Congress over the public domain, although they would be inconsistent with the power of the Congress over water powers outside of the public domain.⁶ This is for the reasons, already stated, as to the difference between the scope of authority of the Congress over public domain lands, and that over streams outside of the public domain.

The bill also recognizes the power of the State to regulate rates for services which are purely intrastate. It provides for forfeiture and cancellation, through proper proceedings, for non-compliance by the permittee with the terms of the statute or of the permit granted thereunder. It exempts water power leased for municipal use from rental charges.

The merit of this bill is, that it allows the investor in advance to make a reasonable approximation of his necessary ultimate investment, without having it subject to the hazard of confiscation or of arbitrary conditions from time to time which may cause a loss in whole or in part of reasonable profits or of his investment.

THE SHIELDS BILL—WATER POWERS OUTSIDE OF THE PUBLIC DOMAIN

The Shields bill (S. 3331) was passed by the U. S. Senate March 8, 1916, by a vote of 46 to 22, and is now pending in the House. The following are the chief features of this bill: It obviates a special act of Congress for each development, by providing that the Secretary of War, with the advice of the Chief of Engineers, may grant a permit, subject to the conditions of the Act, and those conditions are made reasonably certain and definite in their nature, thus preventing any general arbitrary exercise of control beyond the conditions specified. It makes all construction subject to the supervision and approval of the War Department.

It is provided that the grantee may be a private company or person for private purposes, or a municipal or public service

⁶"Who Owns the Water Powers?" by Rome G. Brown, Case & Comment, Rochester, N. Y., March, 1913.

corporation for public service. This allows the regulation of rates for public service under public utility commissions.

The bill also specifies the nature of the conditions that may be imposed by the Secretary of War in granting a permit. First, construction must be according to plans, specifications, drawings, and maps approved by the War Department. The plans must be best adapted to the improvement of navigation and also to conserving the water resources of the region. Then, consistently with reasonable investment-cost, the Secretary of War may require construction of navigation facilities at the cost of the grantee, but under plans making the investment cost definite; also, that the grantee shall furnish free power to operate navigation facilities; also, that the government may afterwards increase the navigation facilities without compensation to the grantee and at the cost of the government; also, that the grantee shall pay to the government the cost of investigation, approval, and supervision of construction by the War Department; also, that the grantee shall pay reasonable charges for benefits from headwater improvements operated by the government; also, that the grantee may use government lands necessary to his development, upon paying reasonable compensation for such use.

As to all conditions which may be imposed by the Secretary of War, he is required to have proper regard for investment-cost and consider the possibility of reasonable return on the investment, and to give to riparian owners holding rights under State laws preference, but in other cases to give preference to the first applicant.

Section 5 provides, that unless revoked for cause (under Section 8) the permit continues 50 years, and thereafter shall continue until revoked for cause (under Section 8), or terminated with compensation (under Section 6).

Section 6 provides, that after the 50 year term the government may terminate all rights, upon two years' notice, by (1) taking over the property to the government, or (2) issuing a permit to a new grantee; and in such case the government or such new grantee shall pay the "fair value."—

"of all the property of the grantee which constitutes part of the plant of the grantee and dependent in whole or in part upon it for its usefulness and acquired, necessary, appurtenant, valuable or serviceable in the distribution of water, or in the generation, transmission, and distribution of power, and upon paying to the grantee the fair value of said property, together with the cost to the grantee of the lock or locks, or other aids to navigation, and all other capital expenditures, required by the United States, and assuming all contracts entered into by the grantee which have the approval of the duly constituted public authority having jurisdiction thereof, or which were entered into in good faith and at a reasonable rate, in

view of all the circumstances existing at the time such contracts were made. * * * No value shall be claimed by or allowed to the grantee for the rights hereunder granted."

This "fair value," if not agreed to between the Secretary of War and grantee, is to be determined by proper court proceedings.

Section 7 provides, that rates shall be subject to State laws, but interstate rates shall be regulated by the Interstate Commerce Commission.

Under Section 8, failure to comply with the conditions of the grant is made a misdemeanor, and also subjects the grantee to revocation of his permit, and to the sale of his property.

Section 9 compels beginning of construction within two years, and prosecution of same with due diligence, and development as fast as required to supply reasonable market demands.

Section 10 authorizes the Secretary of War to lease surplus water power at government navigation dams on reasonable and fair terms.

Section 11 provides, that the Act shall not affect constructions already made, except Section 3 (Control of pools and lights by Secretary of War, and fishways by Secretary of Commerce), Section 7 (Rate regulation), Section 8 (Revocation for cause), Section 12 (Against trusts or monopolies), Section 13 (Repeal clause).

Section 12 prohibits combinations with unlawful trusts or monopolies.

Section 13 is the clause reserving the right to amend or repeal, but it also provides that, after investment and construction under the Act, then rights and property used thereunder shall be deemed property rights of the grantee, of which he shall not be deprived by any later amendment or repeal, except upon the conditions provided in Section 6. This prevents confiscatory legislation under the guise of the power to amend or repeal the Act.

In this Shields bill the utmost care has been given to protect every public interest, and to exercise to the utmost extent the power of Congress to regulate and protect navigation interests. It contains very many restrictions and conditions which are burdensome and which involve great expense upon the grantee; but the merit of the bill is, that generally these conditions are definite and when imposed they will permit the investor to compute with some degree of certainty his ultimate amount of investment.

The provisions of this bill were approved by Secretary of War Garrison,⁹ who, after giving long consideration to the questions

⁹See Govt. print on Hearings before Committee on Interstate and Foreign Commerce of the House of Representatives, 64th Cong., 1st sess., entitled "General Dam Legislation," Jan. 28, 1916; also "Federal Water-Power Legislation," by Henry J. Pierce, S. Doc. No. 468, 64th Cong., 1st sess.

involved, both from the viewpoint of public interests and also that of the interests of the investor, recommended the provisions of the bill as providing proper remedial legislation upon the subject.

CONCLUSION

Discussion of this subject has been very lively in Congress, and particularly during the past three or four years. Those members of Congress who are informed on the question are in favor of the passage of the Myers bill,—the public domain bill,—and of the Shields bill,—applying to water powers outside of the public domain. Against these measures the propoganda of Pinchotism has thrown itself with the utmost vituperation. Pinchot is discredited in Congress, that is, on this subject; so he and his cohorts resort to misrepresentation through the public press, and by distribution of misleading pamphlets constituents of congressmen are misinformed, and some congressmen hesitate to act until their constituency have been properly educated. It is an interesting fact that Minnesota has in the Senate the best informed man on this subject. I refer to Senator Nelson. He has made a special study of this subject of national water legislation and he favors these remedial measures. I should not omit mention of Ex-Congressman Stevens, of this city, who, while he was in Congress, was a leader in the House upon this subject, and was working for these very measures. Our Minneapolis Congressman, that was, was quite the opposite of these two other gentlemen; for Congressman Smith has been playing the part of the spokesman for the Pinchot ideas. He has no influence on this subject within Congress, and the stuff which he has been sending out for "home-consumption" is very amusing.

In closing I wish to say, that I do not mean to criticise in detail the views of the committee of the American Society of Civil Engineers, so far as they are put forth as theoretical suggestions, independent of practical, workable ideas. Their report looks too far ahead, or perhaps, too far back. It does not promise definite results or help. I have shown the necessity of remedial legislation, and that proper remedial measures are now before the Congress. An engineers' society, whether it be the American Society or your own local society, should, it seems to me, do their utmost by individual and organized effort to promote the passage in Congress of these pending bills,—the Myers bill and the Shields bill. For this purpose you should co-operate with those who are promoting these laws, and thus center your efforts for reform of national water laws in accomplishing something now, which is really practical, and which promises to remedy existing obstacles to water-power development.

